

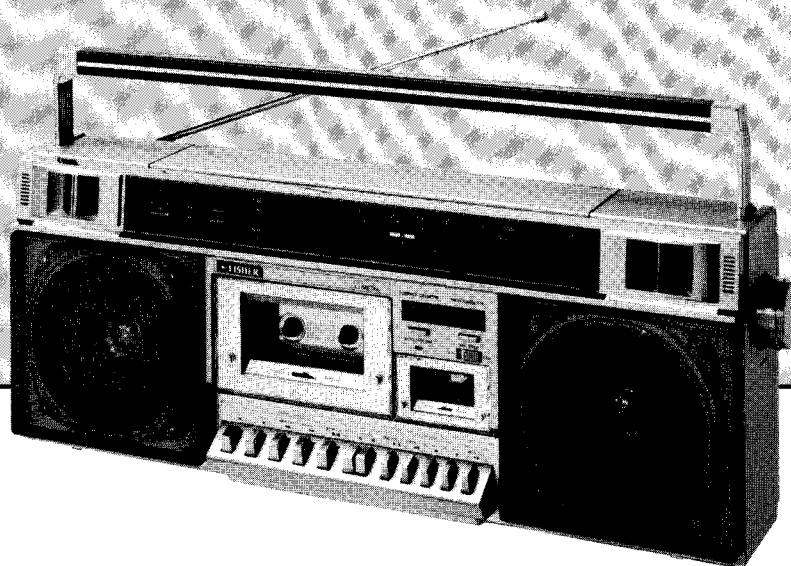
**SERVICE MANUAL**



# **FISHER**

# **PH-M77**

**Stereo Radio/Double  
Cassette Recorder  
(EUROPE)**



**THE FIRST NAME IN HIGH FIDELITY**

*MC-Service*

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# SPECIFICATIONS

Power Source	
AC .....	120/220V (50/60Hz)
DC .....	9V (UM-1, HP 2, D Cell, Monozellen, R20 x 6)
Output Power .....	2.6W x 2 (10% THD, DC)
Power Consumption .....	13W
Input Sensitivity	
MIC .....	0.3mV
LINE IN .....	100mV
Output Level and Impedance	
LINE OUT .....	400mV
Ext. Speaker .....	2 ~ 6Ω
Headphone .....	8Ω
Frequency Range	
LW .....	150 ~ 350kHz
MW .....	525 ~ 1,605kHz
SW .....	6 ~ 18MHz
FM .....	88 ~ 108MHz
<b>Compact Cassette Section</b>	
Current Consumption (at Vol. min.)	
Record mode .....	300mA
Playback mode .....	195mA
Fast Forward mode .....	155mA
Rewind mode .....	140mA
Recording System .....	AC Bias
Erasing System .....	AC Erasing
Oscillation Frequency .....	55kHz
Tape Speed .....	1-7/8ips. ±3%
Wow & Flutter .....	0.12% (WRMS)
Fast Forward Time .....	120 sec. (with C-60 cassette tape)
Rewind Time .....	120 sec. (with C-60 cassette tape)
Frequency Response (Overall)	
Fe2O3 .....	80Hz ~ 10kHz
CrO2 .....	80Hz ~ 11kHz
Metal .....	80Hz ~ 12kHz
Erase Ratio (Overall)	
Fe2O3 .....	60dB
Signal to Noise Ratio	
Fe2O3 .....	42dB
Crosstalk (with Fe2O3)	
Track to Track .....	50dB
Channel Separation (with Fe2O3) .....	more than 30dB
Harmonic Distortion (K3) .....	5%
Hum & Noise (at Vol./Tone min.) .....	-60dBs
<b>Micro Cassette Section</b>	
Current Consumption (at Vol. min.)	
Record mode .....	230mA
Playback mode .....	180mA
Fast Forward mode .....	100mA
Rewind mode .....	105mA
Recording System .....	AC Bias
Erasing System .....	AC Erasing
Oscillation Frequency .....	40kHz
Tape Speed	
1.2cm .....	15/32ips. ±3%
2.4cm .....	15/16ips. ±3%
Wow & Flutter .....	0.33% (WRMS)
Fast Forward Time .....	150 sec. (with MC-60 micro cassette tape)
Rewind Time .....	150 sec. (with MC-60 micro cassette tape)
Frequency Response (Overall)	
Fe2O3 .....	80Hz ~ 6.3kHz
Metal .....	80Hz ~ 8kHz
Erase Ratio (Overall)	
Fe2O3 .....	57dB
Signal to Noise Ratio	
Fe2O3 .....	37dB
Crosstalk (with Fe2O3)	
Track to Track .....	50dB
Channel Separation (with Fe2O3) .....	more than 30dB
Harmonic Distortion (K3) .....	5%
Hum & Noise (at Vol./Tone min.) .....	-60dBs

—Specifications subject to change without notice.—

# DISASSEMBLY INSTRUCTIONS

## GENERAL REMARKS

- Before disassembling the unit, spread soft cloth or a rubber mat on the work bench to avoid scratches and grease stains.
- Do not spread anything which is likely to cause static electricity because transistors and ICs are easily broken by it.
- Correctly reassemble the unit, noting the kinds of fastening screws and the lead arrangement. Please refer to "Circuit Diagrams" and "Exploded Views".

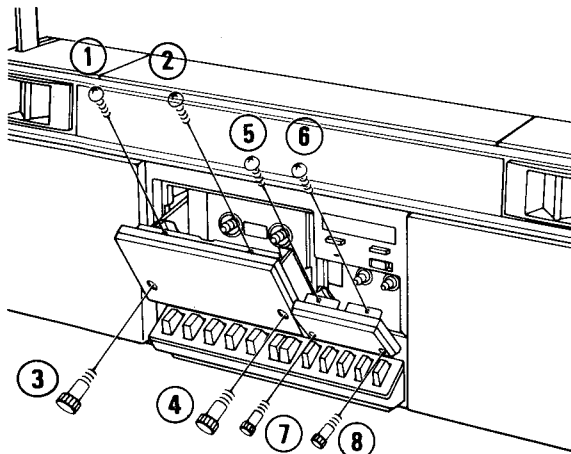
## CASSETTE COMPARTMENT LID REMOVAL

1. Open the cassette compartment lid by pressing the Stop/Eject button and take out the cassette tape.
2. Remove the four screws (1 ~ 4) fastening the compact cassette side and the four screws (5 ~ 8) fastening the microcassette side.

### NOTE:

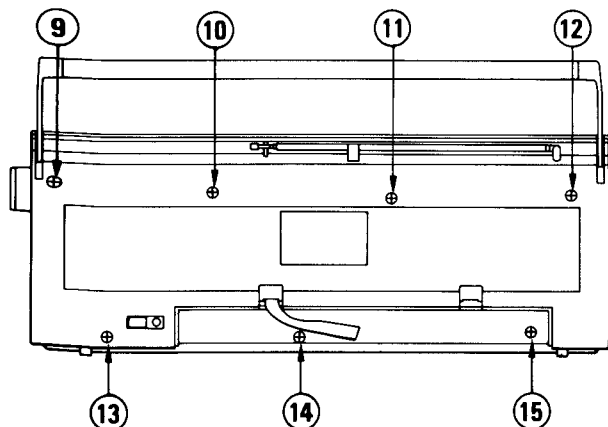
Perform the azimuth adjustment after removing the cassette compartment lid.

3. Reassemble in reverse order.



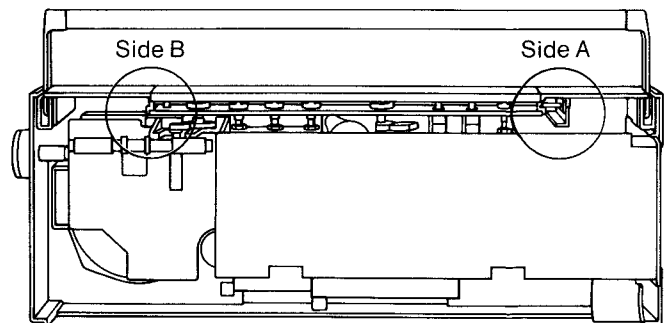
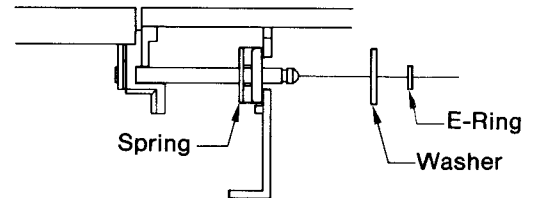
## CABINET BOTTOM REMOVAL

1. Turn over the unit and remove the battery compartment lid.
2. Remove the seven screws (9 ~ 15) fastening the Cabinet Bottom and detach the Cabinet Bottom by lifting it.
3. Pull out the two battery connectors from the Amplifier P.C.Board.
4. Reassemble in reverse order.



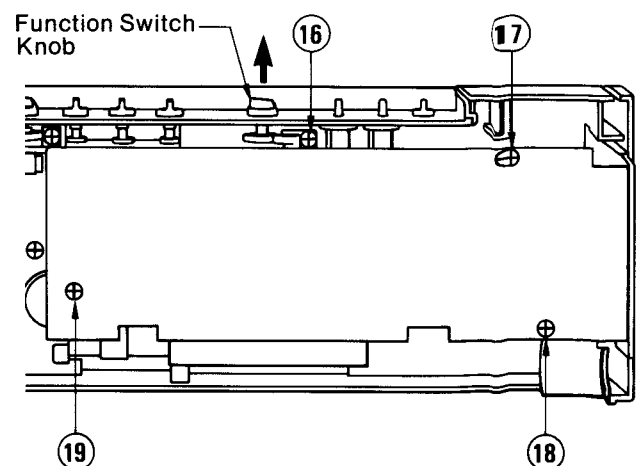
## TOP LID REMOVAL

1. Remove the Cabinet Bottom by following its removal instruction and then, the E-Ring, the Washer, and the Spring as illustrated.
2. Remove the Top Lid by lifting out Side B from the Cabinet Top.
3. Reassemble in reverse order.



## AMPLIFIER P.C.BOARD REMOVAL

1. Remove the Cabinet Bottom and the Top Lid by following their removal instructions. Set the Function Switch Knob to "LINE" and pull out the knob.
2. Remove the four screws (16 ~ 19) fastening the Amplifier P.C.Board and pull out all connectors connected to the Amplifier P.C.Board. Then, remove the P.C.Board by lifting it, noting the lead wires.
3. Reassemble in reverse order.





## DISASSEMBLY INSTRUCTIONS (Continued)

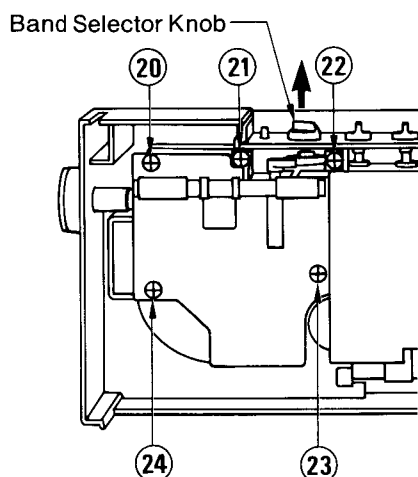
### RADIO TUNER P.C.BOARD REMOVAL

1. Remove the Cabinet and the Top Lid by following their removal instructions and pull out the Band Selector Knob.
2. Remove the five screws (20 ~ 24) fastening the Radio Tuner P.C.Board and then, the P.C.Board by lifting it.

#### NOTE:

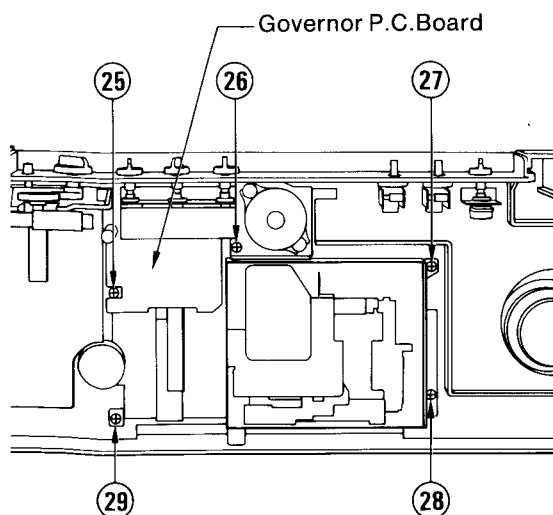
Do not move the Band Selector Knob after the Radio Tuner P.C.Board is removed.

When mounting the Radio Tuner P.C.Board, insert the shaft of the variable condenser into the drum hole and check that the dial indication is correct.



### MECHANISM CHASSIS REMOVAL

1. Detach the compact cassette and microcassette compartment lids by following the removal instructions. Then, remove the Cabinet Bottom, the Top Lid, and the Amplifier P.C.Board.
2. Pull out the two connectors from the Governor P.C.Board on the microcassette side.
3. Remove the five red screws (25 ~ 29) fastening the Mechanism Chassis. Then, separate the Mechanism Chassis from the unit by lifting the select button side.



#### NOTE:

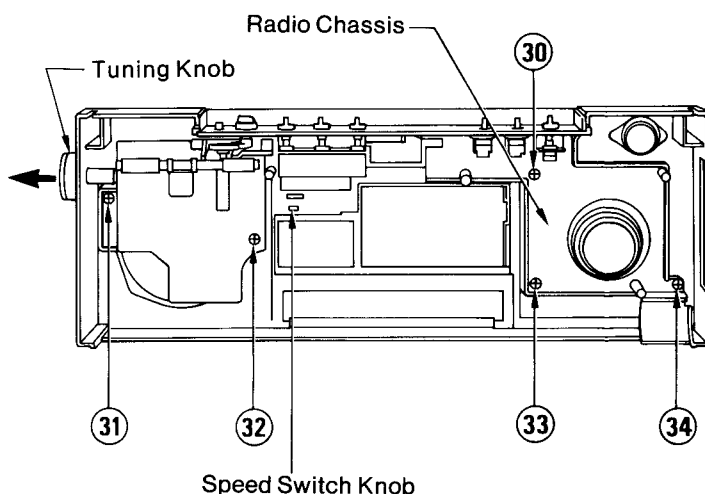
\* Both compact cassette and microcassette mechanism chassis can be removed together.

\* When removing or remounting the Mechanism Chassis, note the leads connected to the Amplifier P.C.Board.

4. After the Mechanism Chassis is removed, be sure to pull out the Speed Switch Knob. Remount this knob in the final process of the assembly.
5. Reassemble in reverse order.

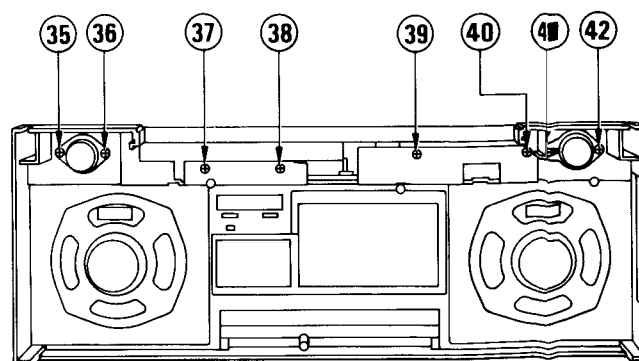
### RADIO CHASSIS REMOVAL

1. Remove the Mechanism Chassis from the unit by following its removal instructions and pull out the Tuning Knob.
2. Remove the five screws (30 ~ 34) fastening the Radio Chassis and then, detach the Radio Chassis from the unit.
3. Reassemble in reverse order.



### WINDOW PANEL REMOVAL

1. The LED Indicator P.C.Board and the right and left built-in speakers are mounted on the Window Panel.
2. Remove the Radio Chassis from the unit and then, the eight screws (35 ~ 42) fastening the Window Panel.
3. The speaker grille on the tweeter will be detached when the above fastening screws are removed.
4. Reassemble in reverse order.



# MECHANICAL ADJUSTMENTS

## COMPACT CASSETTE MECHANISM ADJUSTMENT

### GENERAL REMARKS

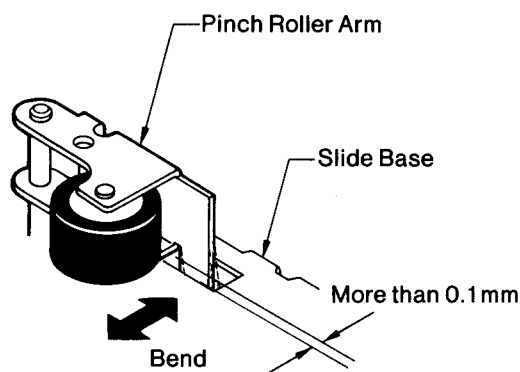
1. When a repair or an adjustment work on the mechanism is performed, remove the Mechanism Chassis from the unit and supply 9V DC from the constant-voltage regulator to the source terminals on the Amplifier P.C.Board.
2. Before and after the mechanism adjustment, clean the tape contacting surfaces with a soft cloth soaked in alcohol.
3. The belts must be kept clean while the adjustments are performed.
4. Silicone grease (Example: SHIN-ETSU SILICONE KS-64) is applied to the Drive Belt and the Take-up Belt on the compact cassette side to protect them from abrasion. If necessary, apply a little amount of silicone grease to each groove of the Flywheel and Friction Assemblies. Then, rotate the motor, so that the grease flows into the belt.
  - \* If silicone grease other than the specified one or its equivalent is used, the melting of the belt may be caused.
  - \* Silicone grease is not applied to the Replacement Belts.
  - \* Grease or oil should not stick to the ASO belt. If the belt is stained with grease or oil, wipe it clean with benzine.

### EQUIPMENT REQUIRED

- \* Cassette-type Torquemeter
- \* Microcassette-type Torquemeter
- \* Plus Screwdriver (for 1.7mm, 2.6mm, and 3mm)
- \* A Pair of Tweezers
- \* Paint or Glue

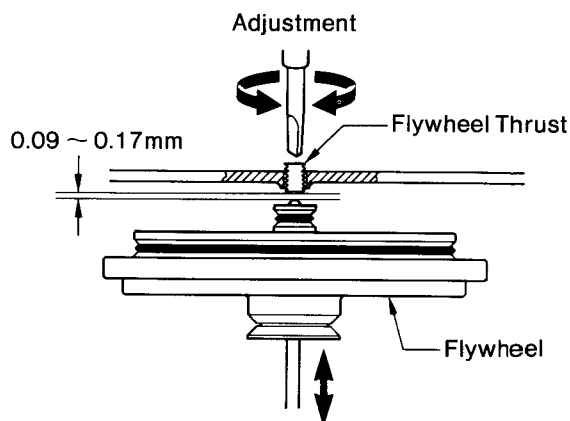
### PINCH ROLLER ADJUSTMENT

1. While pressing the PLAY button slowly, check to see that the Take-up Reel rotates before the Pinch Roller starts rotating.
2. Set the unit in the playback mode and check to see that the clearance between the Pinch Roller Arm and the Slide Base is more than 0.1 mm.
3. If necessary, adjust the clearance by bending the Pinch Roller Arm as illustrated. Do not excessively bend it.
  - \* If the Pinch Roller has a defective rubber surface, replace it with a new one.



### FLYWHEEL THRUST ADJUSTMENT

Check to see that the clearance between the Flywheel Thrust and the Flywheel is 0.09 ~ 0.17mm with the Chassis upside down as illustrated. If necessary, adjust the clearance by the following procedure.



1. While moving the Capstan up and down, slowly turn the Flywheel Thrust clockwise to obtain the clearance of "0" (zero) between the Thrust and the Flywheel.

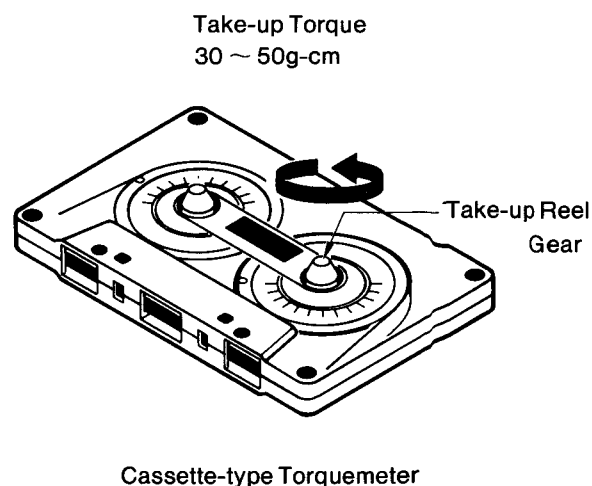
#### NOTE:

Do not turn the Flywheel Thrust forcibly.

2. Turn the Thrust counter-clockwise by 45° ~ 90° from the position and check the clearance.
3. After the adjustment, secure the Flywheel Thrust with paint or glue.

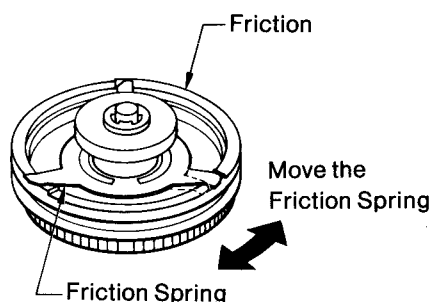
### TAKE-UP TORQUE ADJUSTMENT

1. Insert the cassette-type torquemeter into the unit and measure the torque of the Take-up Reel Gear with the unit in the playback mode. It should be 30 ~ 50g-cm.



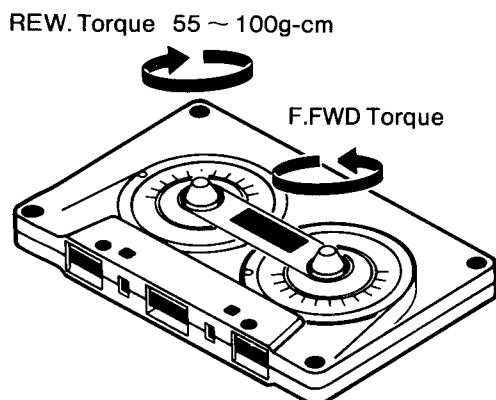
## MECHANICAL ADJUSTMENTS (Continued)

2. If necessary, adjust the torque by moving the Friction Spring of the Friction Assembly as illustrated.



### FAST FORWARD & REWIND TORQUE

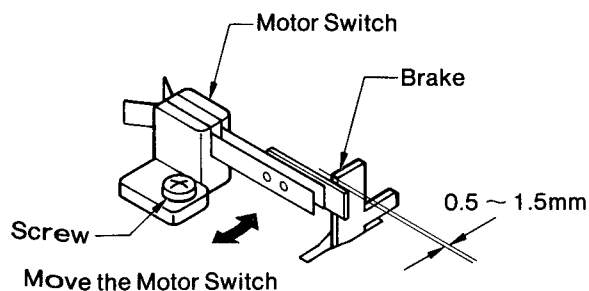
1. The fast forward and rewind torque value measured by the cassette-type torquemeter should be 55 ~ 100g-cm.



2. If the torque value is more than 100g-cm, apply a proper amount of silicone grease (Example: SHIN-ETSU SILICONE KS-64) to the groove of the Friction Assembly. Then, rotate the motor, so that the grease flows into the Take-up Belt.
3. If the torque value is less than 55g-cm, replace the Take-up Belt with a new one.

### MOTOR SWITCH ADJUSTMENT

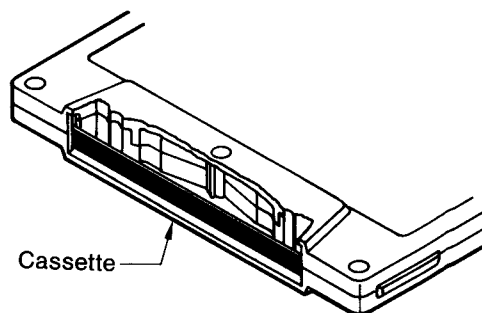
1. Set the unit in the stop mode and check to see that the clearance between the Motor Switch and the Brake is 0.5 ~ 1.5mm as illustrated, and that the Motor Switch is turned on by pressing one of the Select Button (PLAY, F.FWD, or REW).



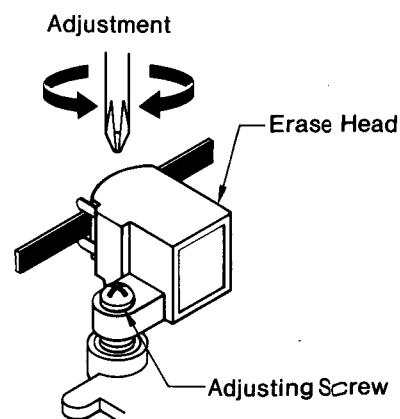
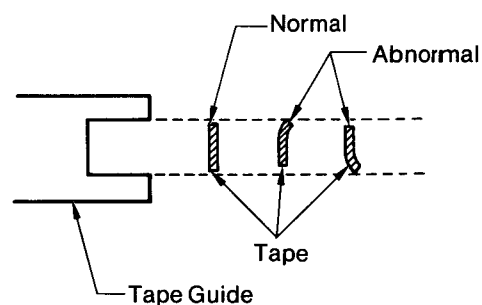
2. If necessary, loosen the screw fastening the Motor Switch and move the Switch to the specified position.
3. After the adjustment, tighten the screw and secure it with paint or glue.

### TAPE RUNNING CONDITION ADJUSTMENT

1. Prepare the cassette tape (C-120) as the test tape for this adjustment.



2. Insert the test tape into the cassette compartment and play it back. Then, check to see that the tape is not curling along the Tape Guide of the Erase Head while the test tape is being played back.
3. If necessary, tighten the adjusting screw and slowly loosen it until the tape is exactly centered in the Tape Guide of the Erase Head.



4. After the adjustment, secure the adjusting screw with paint or glue.

# MECHANICAL ADJUSTMENTS (Continued)

## MICRO CASSETTE MECHANISM ADJUSTMENT

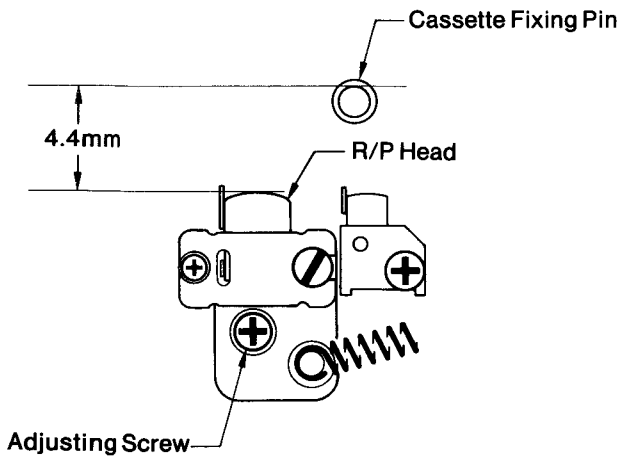
### MICROCASSETTE

The metal tape (OTTO MC-46ME) is recommended to demonstrate the good performance because some microcassette tapes on the market are sometimes difficult to erase completely.

Some other brand names such as TDK, MAXELL, OLYMPUS, or MATSUSHITA are also recommended to use.

### HEAD POSITION ADJUSTMENT

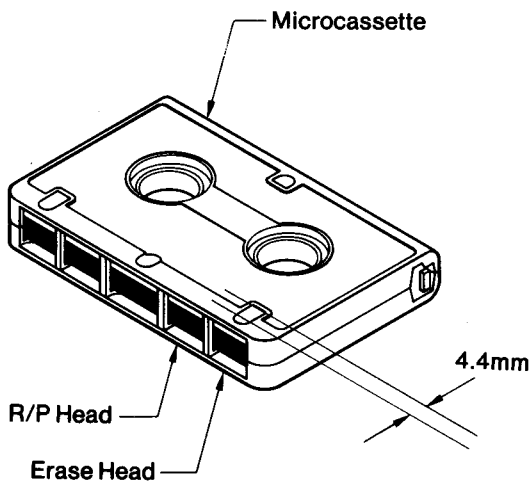
The distance between the cassette fixing pin and the R/P Head should be 4.4mm with the unit in the recording mode.



Whenever the Head has been removed or replaced, perform the head position adjustment by the following procedures.

#### NOTE:

A cassette with the specified pin-head distance marked on it as shown can be used as a facilitating gauge for the Head Position Adjustment. (Do not use a worn cassette.)

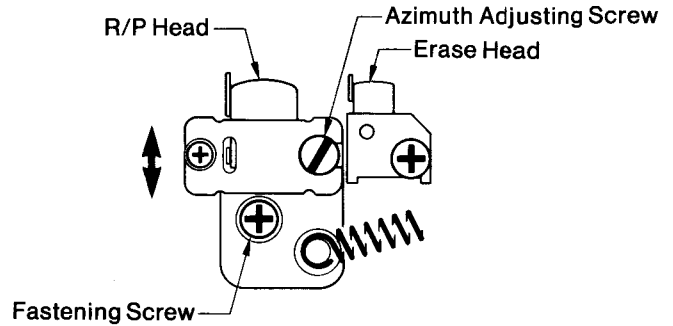


1. Mount the R/P Head on the Slide Base and move the Head to the specified position. Then, tighten the fastening screw and the azimuth adjusting screw.

2. Secure the screw fastening the R/P Head with paint or glue.

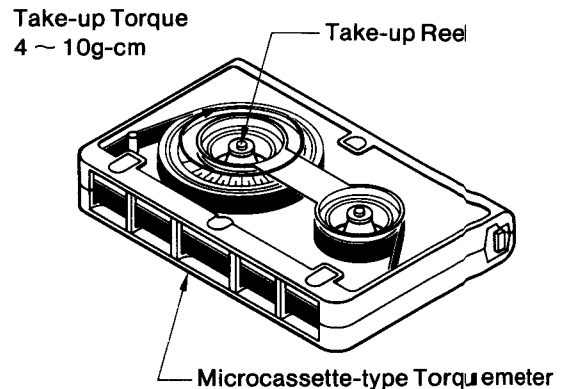
#### NOTE:

Secure the azimuth adjusting screw with paint or glue after the azimuth adjustment.



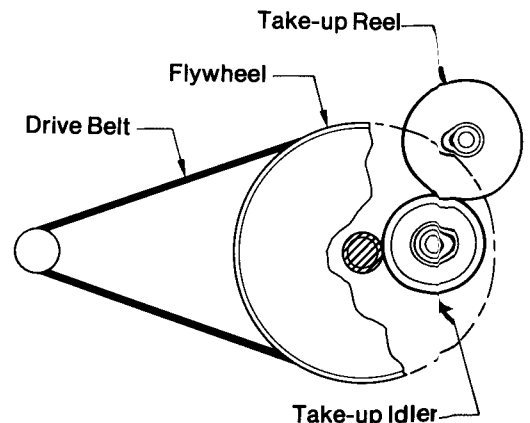
### TAKE-UP TORQUE ADJUSTMENT

1. Insert the microcassette-type torquemeter into the cassette compartment and set the unit in the playback mode. Then, measure the take-up torque of the Take-up Reel. It should be 4 ~ 10g-cm.



2. If necessary, check the following parts.

- \* Drive Belt
- \* Flywheel
- \* Take-up Idler
- \* Take-up Reel



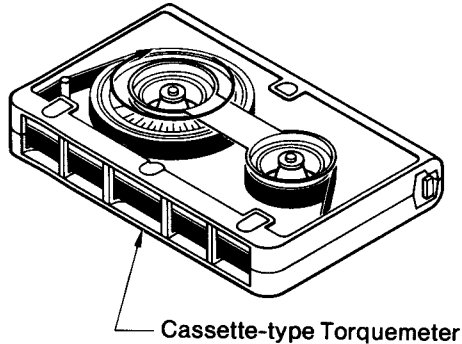
3. If the above described parts are stained or the rubber is deteriorated, wipe them with a soft cloth soaked in alcohol.

## MECHANICAL ADJUSTMENTS (Continued)

### FAST FORWARD TORQUE ADJUSTMENT

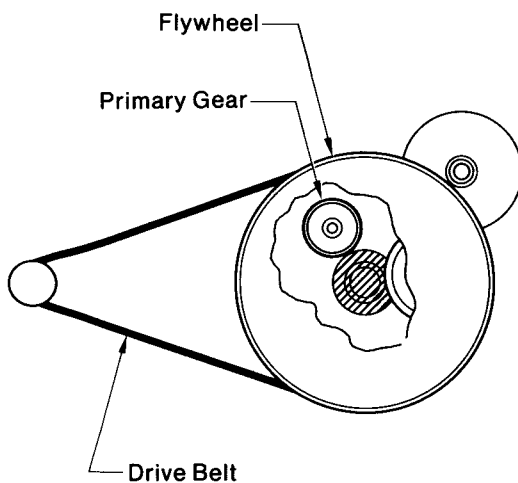
1. Insert the microcassette-type torquemeter into the cassette compartment and measure the F.FWD torque with the unit in the F.FWD mode. It should be more than 10g-cm.

F.FWD Torque  
more than 10g-cm

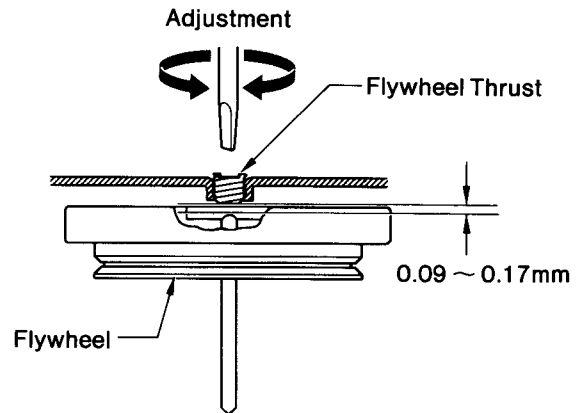


2. If necessary, check the following parts.

- \* Drive Belt
- \* Flywheel
- \* Primary Gear



1. While moving the Capstan up and down, slowly turn the Flywheel Thrust clockwise to obtain the clearance of "0" (zero) between the Thrust and the Flywheel



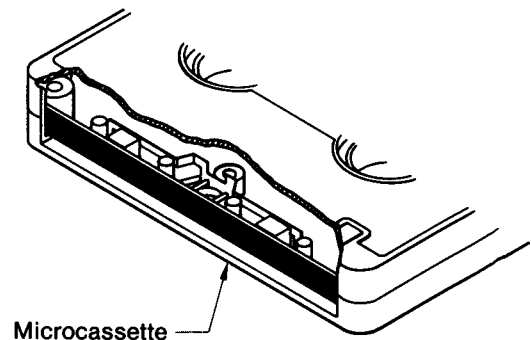
#### NOTE:

Do not turn the Flywheel Thrust forcibly.

2. Turn the Thrust counter-clockwise by  $45^\circ \sim 90^\circ$  from the position and check the clearance.
3. After the adjustment, secure the Flywheel Thrust with paint or glue.

### TAPE RUNNING CONDITION ADJUSTMENT

1. Cut the MC-46 metal microcassette as illustrated, so that the tape guide of the Erase Head can be observed.



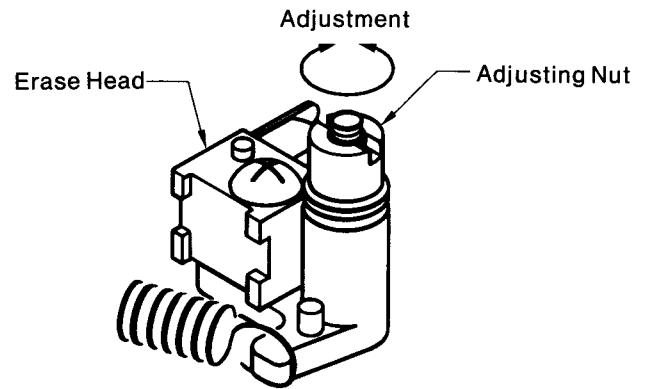
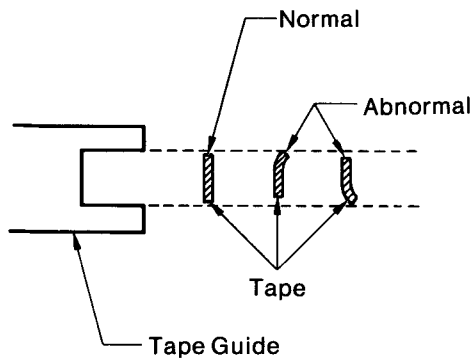
3. If the above described parts are stained or the rubber is deteriorated, wipe them with a soft cloth soaked in alcohol or replace them with new ones.

### FLYWHEEL THRUST ADJUSTMENT

Check to see that the clearance between the Flywheel Thrust and the Flywheel is 0.09 ~ 0.17mm with the Chassis upside down as illustrated. If necessary, adjust the clearance by the following procedure.

## MECHANICAL ADJUSTMENTS (Continued)

2. Insert the microcassette into the cassette compartment and play it back. Then, check to see that the tape is not curling along the Tape Guide of the Erase Head while the tape is being played back.
3. If necessary, tighten the adjusting nut and slowly loosen it until the tape is exactly centered in the Tape Guide of the Erase Head.



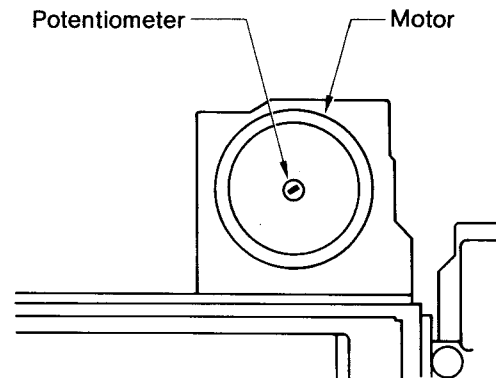
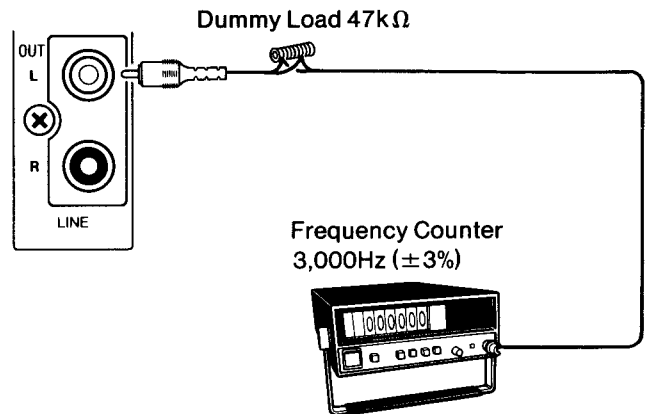
4. After the adjustment, secure the adjusting nut with paint or glue.

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# ELECTRICAL ADJUSTMENTS

## EQUIPMENT REQUIRED

- Audio Signal Generator
- Attenuator
- Frequency Counter
- VTVM (2 sets)
- Dualtrace Synchroscope
- Dummy Load (47k $\Omega$ )
- Test Tapes
  - \* For Tape Speed Adjustment
    - \* 3kHz Test Tape (Example: TEAC MTT-111) for the compact cassette side
    - \* 3kHz Test Tape (Example: OLYMPUS OA-W212) for the microcassette side
  - \* For Head Azimuth Adjustment
    - \* 10kHz Test Tape (Example: TEAC MTT-114) for the compact cassette side
    - \* 5kHz Test Tape (Example: OLYMPUS OA-A221) for the microcassette side
  - \* Normal Tapes for Recording and playback Test
    - \* Normal Tape (Example: TDK AC-222) for the compact cassette side
    - \* Normal Tape (Example: OLYMPUS OA-B111) for the microcassette side
- DC Constant-voltage Regulator
- Alignment Tool (Non-metallic)



4. While playing back the test tape, adjust the potentiometer inside the motor with an alignment tool until the frequency counter reads 3,000Hz ( $\pm 3\%$ ).

## Microcassette Side

The tape speed adjustment can be performed without removing the Mechanism Chassis. Remove the cassette compartment lid before the adjustment.

### 2.4cm/sec. Adjustment

1. Set the Tape Speed Switch to "2.4cm" and insert a 3kHz test tape (Example: OLYMPUS OA-W211) into the cassette compartment.



**Prior to the Electrical Adjustments, set the unit and the measuring instruments as follows:**

- Tape Select Switch (C Cassette) ..... Normal
- Tape Select Switch (M Cassette) ..... Normal
- Function Switch ..... Tape
- Beat Cancel Switch (C Cassette) ..... 1
- Beat Cancel Switch (M Cassette) ..... 1
- Tape Speed Switch ..... 2.4cm
- Audio Signal Generator Output ..... 1kHz, 0dB (1V)
- DC Constant-voltage Regulator Output ..... 9V

## NOTE:

The Electrical Adjustments should be performed in the order as described below.

Supply power source of 9V DC from the constant-voltage regulator to the unit at the adjustment.

## TAPE SPEED ADJUSTMENT

### Compact Cassette Side

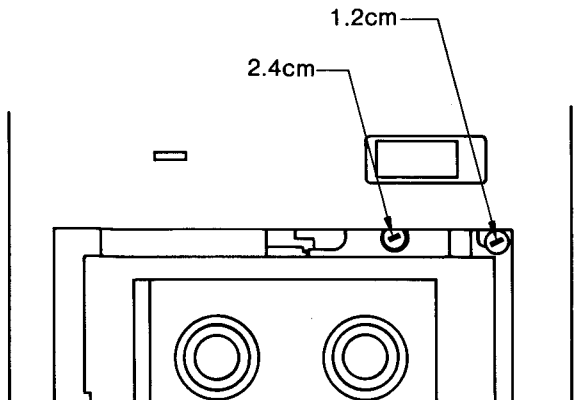
1. Remove the Mechanism Chassis from the unit and insert a 3kHz test tape (Example: TEAC MTT-111) into the Mechanism Chassis.
2. Connect the frequency counter to the left or right channel LINE OUT as illustrated.
3. Connect the constant-voltage regulator to the source terminals on the Amplifier P.C.Board and supply 9V DC to the Amplifier.

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## ELECTRICAL ADJUSTMENTS (Continued)

- While playing back the test tape, turn the potentiometer (P501) on the Governor P.C.Board until the frequency counter reads 3,000Hz ( $\pm 3\%$ ).



### 1.2cm/sec. Adjustment

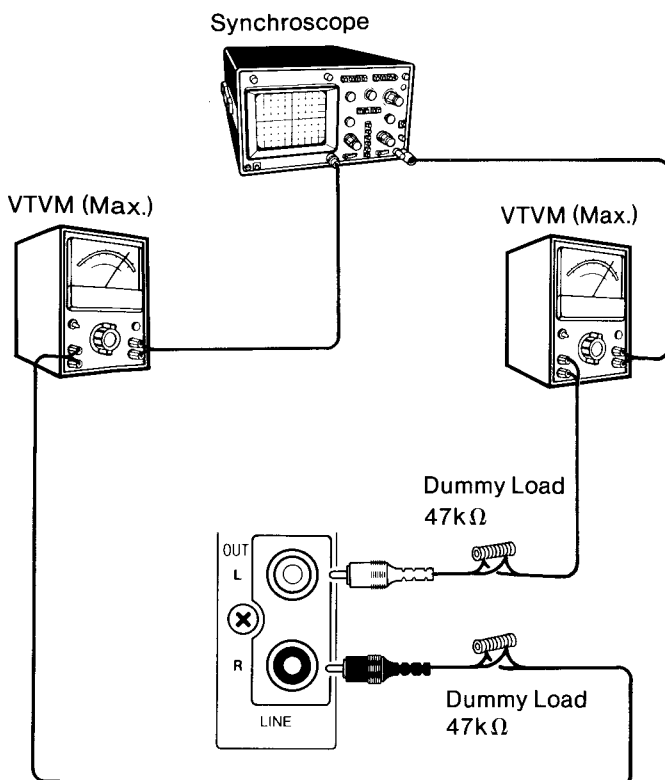
- Set the Tape Speed Switch to "1.2cm" and play back the same tape as used "2.4cm/sec. Adjustment".
- Turn the potentiometer (P502) on the Governor P.C.Board until the frequency counter reads 1,500Hz ( $\pm 10\%$ ).

## HEAD AZIMUTH ADJUSTMENT

Remove the both cassette compartment lids on the compact and microcassette sides before the azimuth adjustment.

### Compact Cassette Side

- Connect the VTVM and the dualtrace synchroscope to the both channels' LINE OUT as illustrated.



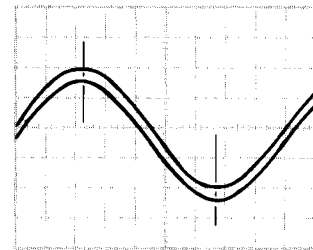
Set the synchroscope as follows:

- \* MODE ..... CHOP (chopped)
- \* SOURCE ..... INT (internal), CH1 or CH2
- \* SWEEP MODE ..... AUTO (automatic)

### NOTE:

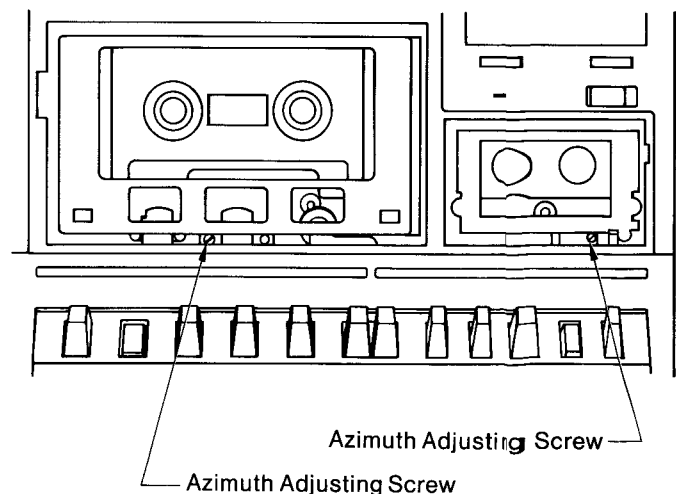
Adjust the field on the synchroscope with the VOLT. ADJ. and TIME ADJ.

- Insert a 10kHz test tape (Example: TEAC MTT-114) into the cassette compartment. While playing back the tape, slowly turn the azimuth adjusting screw until the wave forms of the right and left channels are superimposed and set to optimum at maximum reading on the VTVM.



### Compact Cassette Side

### Microcassette Side



### Microcassette Side

- \* Insert a 5kHz test tape (Example: OLYMPUS OA-A211) into the cassette compartment and perform the azimuth adjustment in the same manner as "Compact Cassette Side".
- \* After the adjustment, secure each azimuth adjusting screw with paint or glue.

MC-Service

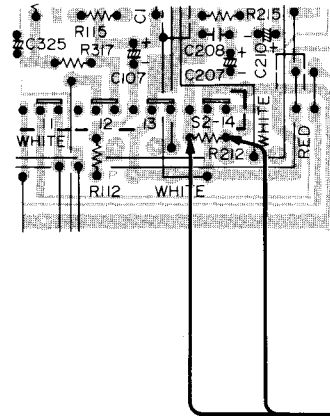
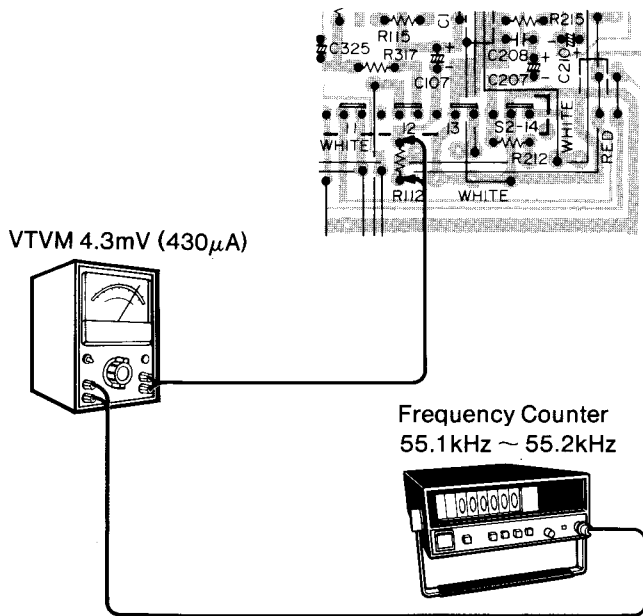
# ELECTRICAL ADJUSTMENTS (Continued)

## OSCILLATION FREQUENCY AND RECORDING BIAS ADJUSTMENT

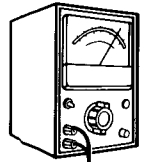
### Compact Cassette Side

#### RIGHT CHANNEL

1. Connect the VTVM across R112 as illustrated and the frequency counter to the output terminal of the VTVM as illustrated.



VTVM  
4.3mV (430μA)

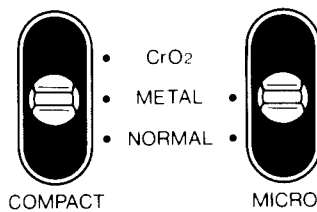


#### Microcassette side

Insert a microcassette tape (no particular type) into the cassette compartment and perform the adjustment under the following conditions in the same manner as "Compact Cassette Side".

- \* Resistors to be connected:
  - Right channel ..... R123
  - Left channel ..... R223
- \* Oscillation Transformer to be adjusted: ..... T302
- \* Potentiometers to be adjusted:
  - Right channel ..... P102
  - Left channel ..... P202
- \* Bias Current: ..... 3.3mV (3.8μA)

2. Set the Tape Select Switches on the compact and micro-cassette sides to "METAL" and insert a tape (no particular type) into the cassette compartment. Then, set the unit in the recording mode.



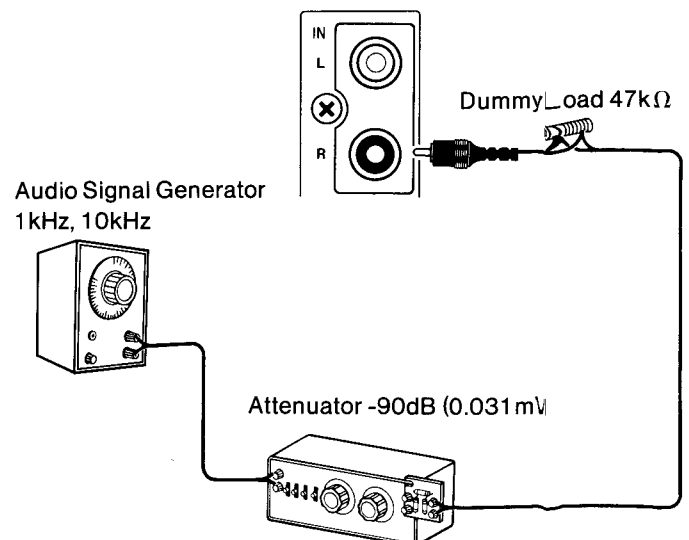
Tape Select Switches

## REC/PLAY FREQUENCY RESPONSE ADJUSTMENT

### Compact Cassette Side

#### RIGHT CHANNEL

1. Connect the audio signal generator and the attenuator to the right channel LINE IN, and the VTVM to the right channel LINE OUT as illustrated.

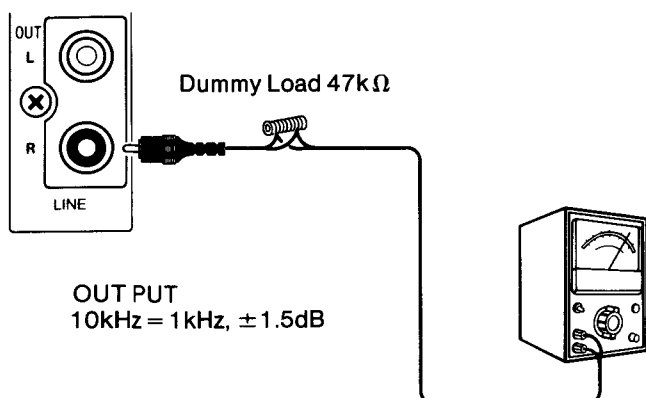


3. Turn the core of the oscillation transformer (T301) with an alignment tool until the frequency counter reads 55.1kHz ~ 55.2kHz.
4. Keeping the unit in the recording mode, turn the potentiometer (P101) until the VTVM reads 4.3mV (430μA).

#### LEFT CHANNEL

5. Connect the VTVM across R212 as illustrated and turn the potentiometer (P201) until the VTVM reads 4.3mV (430μA).

## ELECTRICAL ADJUSTMENTS (Continued)



2. Insert a normal tape (Example: TDK AC-222) into the cassette compartment and alternately record the signals of 1kHz and 10kHz at -90dB (0.031mV) from the audio signal generator on the tape several times.
3. While playing back the recorded signals, check that the 10kHz signal output level is identical to the 1kHz signal output level or the deviation is  $\pm 1.5\text{dB}$ .

4. If necessary, adjust the potentiometer (P101) turning it and then, repeat the recording and playback operations of the two signals.
5. Repeat the above adjustment until the 10kHz signal output meets the specified output.

### LEFT CHANNEL

Connect the audio signal generator and the attenuator to the left channel LINE IN, and the VTVM to the left channel LINE OUT. Adjust the potentiometer (P201), following the same procedures as in "RIGHT CHANNEL".

### Microcassette Side

Insert a normal microcassette tape (Example: OLYMPUS OA-B111) into the cassette compartment and perform the adjustment under the following conditions in the same manner as "Compact Cassette Side".

- \* Input Signal: ..... 700Hz and 7kHz
- \* Input Level: ..... -90dB (0.031 mV)
- \* Potentiometers to be adjusted:
  - Right Channel ..... P102
  - Left Channel ..... P202

*MC-Service*

# TUNER ADJUSTMENT

## EQUIPMENT REQUIRED

- AM Standard Signal Generator
- FM Standard Signal Generator
- Generator Scope
- Stereo Signal Generator
- Loop Antenna
- Dummy Antenna (30  $\Omega$ /10pF) for SW
- Dummy Antenna (75  $\Omega$ , unbalanced type) for FM
- VTVM
- Frequency Counter
- Distortion Meter

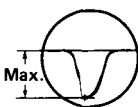

- Oscilloscope
- Dummy Load (3.2  $\Omega$ )
- Alignment Tool
- Before performing the adjustment, set the unit as follows:
  - \* Function Switch ..... RADIO
  - \* FM Mode Switch ..... MONO
  - \* Tone Control ..... Maximum
  - \* Balance Control ..... Center (0)
  - \* Volume Control ..... Center

### NOTE:


Use a alignment tool with plastic grip for all adjustments.

## MW ALIGNMENT

Standard Test Frequency 400Hz and Modulation 30% at AM

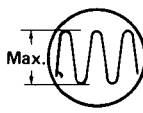
Step	Alignment	Connections		Frequency of Signal Generator	Tuning Dial Setting	Adjustments	Remarks
		INPUT	OUTPUT				
1	Calibration of IF for AM	Connect standard loop antenna to output terminal of gene-scope. Place loop antenna 60cm away from bar antenna.	Connect input terminal of gene-scope to detector output terminals. (CN1-1 or CN1-2, and CN1-3)	460kHz	Low End	T8, T9 and T10	Obtain symmetrical curve and maximum amplitude. 
2	Calibration of Tuning Range	Connect standard loop antenna to output of signal generator. Place loop antenna 60cm away from bar antenna.	Connect VTVM with 3.2Ω dummy load and oscilloscope to Ext. Speaker terminal.	510kHz		T6	Obtain sine-wave of 400Hz and maximum amplitude. 
3				1,670kHz	High End	TC4	
4	Adjustment of Tracking			600kHz	600kHz	L4-2 (bar ant. coil)	
5				1,400kHz	1,400kHz	TC3 (PVC)	
6	Repeat the above adjustment.						

## LW ALIGNMENT

Step	Alignment	Connections		Frequency of Signal Generator	Tuning Dial Setting	Adjustments	Remarks
		INPUT	OUTPUT				
1	Calibration of Tuning Range	Connect standard loop antenna to output of signal generator. Place loop antenna 60cm away from bar antenna.	Connect VTVM with 3.2Ω dummy load and oscilloscope to Ext. Speaker terminal.	145kHz	Low End	T7	Obtain sine-wave of 400Hz and maximum amplitude. 
2				365kHz	High End	TC4	
3	Adjustment of Tracking			170Hz	170Hz	L4-1 (bar ant. coil)	
4				310Hz	310Hz	TC2	
5	Repeat the above adjustment.						

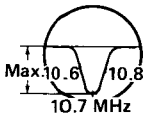
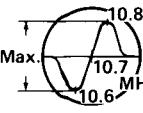
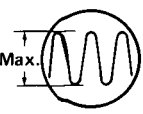
# TUNER ADJUSTMENT (Continued)

## SW ALIGNMENT

Step	Alignment	Connections		Frequency of Signal Generator	Tuning Dial Setting	Adjustments	Remarks
		INPUT	OUTPUT				
1	Calibration of Tuning Range	Connect signal generator to antenna terminals (TP1 and TP2) through dummy antenna (30 $\Omega$ /10pF).	Connect VTVM with 3.2 $\Omega$ dummy load and oscilloscope to Ext. Speaker terminal.	5.7MHz	Low End	T5	Obtain sine-wave of 400Hz and maximum amplitude. 
2				18.7MHz	High End	TC3	
3	Adjustment of Tracking			6.5MHz	6.5MHz	T4	
4				17.0MHz	17.0MHz	TC1	
5	Repeat the above adjustment.						

## FM ALIGNMENT

Standard test frequency 400Hz and deviation 22.5kHz

Step	Alignment	Connections		Frequency of Signal Generator	Tuning Dial Setting	Adjustments	Remarks
		INPUT	OUTPUT				
1	Calibration of IF	Place output of gene-scope on Trap Coil (T11).	Connect input terminal of gene-scope to detector output terminals. (CN1-1 or CN1-2, and CN1-3)	10.7MHz	Low End	Turn T43(blue core) fully counter-clockwise T1, and T2.	Obtain symmetrical curve and maximum amplitude. 
2						T3 (blue core)	Obtain S curve and maximum amplitude. 
3	Calibration of Tuning Range	Connect signal generator to antenna terminals (TP1 and TP2) through dummy antenna (75Ω, unbalanced Type).	Connect VTVM with 3.2Ω dummy load and oscilloscope to Ext. Speaker terminal.	87.35MHz	High End	L2	Obtain sine-curve and maximum amplitude. 
4				108.25MHz		TC2 (PVC)	
5	Adjustment of Tracking			90MHz	90MHz	L1	
6				106MHz	106MHz	TC1 (PVC)	
7	Repeat the above adjustment.						

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# TUNER ADJUSTMENT (Continued)

## FM MPX (Multiplex) ADJUSTMENT

Before performing the adjustment, set the unit as follows:

- Function Select Switch ..... RADIO
- Band Select Switch ..... FM
- FM Mode Switch ..... STEREO
- Tone Control ..... Max.
- Balance Control ..... Center (0)
- Volume Control ..... Center

## 19kHz (V.C.O.) ADJUSTMENT

1. Connect the Frequency counter to the twelfth pin (Test Point TP4) in IC2 ( $\mu$ PC1197).
2. Adjust the potentiometer (P1) until the oscilation frequency of IC2 becomes 19kHz ( $\pm 20$ Hz).

## CHANNEL SEPARATION ADJUSTMENT

1. Connect the stereo signal generator and the FM standard signal generator through the 75 $\Omega$  dummy antenna (unbalanced type) to the antenna terminals (TP1 and TP2) on the Radio Tuner P.C.Board.
2. Connect the VTVM with 3.2 $\Omega$  dummy load distortion meter, and oscilloscope to the external speaker jack of the left channel.

3. Adjust the input measuring instruments as follows:

- Stereo Signal Generator
  - \* Pilot Signal ..... 7.5kHz dev. (modulation 10%)
  - \* Stereo Signal ..... 67.5kHz dev. for main signal (modulation 90%)
  - \* Modulation Frequency ..... 400Hz
- FM Standard Signal Generator
  - \* Signal Generator Frequency ..... 98MHz
  - \* Signal Generator Output ..... 60dB $\mu$

4. Set the turning frequency to 98MHz.

5. Adjust the potentiometer (P2) by following the Chart below.

### NOTE:

Use a alignment tool with plastic grip for all adjustments.

Step	Alignment	Connections		Tuning Dial Setting	Adjustment	Remarks
		INPUT	OUTPUT			
1	FM Stereo Signal Separation	Pilot (19kHz) and Sub channel signals of Stereo SG —ON	Connect measuring instruments to <b>L channel</b> Ext. Speaker terminal	98MHz	Dial of FM SG	Maximize amplitude of Oscilloscope and VTVM reading with minimum distortion.
		<b>R channel</b> and Pilot signal of Stereo SG —ON			P2	Minimize amplitude of Oscilloscope and VTVM reading.
2						
3	Repeat the above adjustments.					

6. Connect the measuring instruments to the external speaker jack of the right channel and perform the adjustment by following the Chart below.

Step	Alignment	Connections		Tuning Dial Setting	Adjustment	Remarks
		INPUT	OUTPUT			
1	FM Stereo Signal Separation	Pilot (19kHz) and Sub channel signals of Stereo SG —ON	Connect measuring instruments to <b>R channel</b> Ext. Speaker terminal	98MHz	Dial of FM SG	Maximize amplitude of Oscilloscope and VTVM reading with minimum distortion.
2		<b>L channel</b> and Pilot signal of Stereo SG —ON			P2	Minimize amplitude of Oscilloscope and VTVM reading.
3	Repeat the above adjustments.					

7. Repeatedly perform the adjustments in **Items 5 and 6** to minimize the signal leakage for both right and left channels. Then, reduce the difference between each channel separation by adjusting the potentiometer (P2).

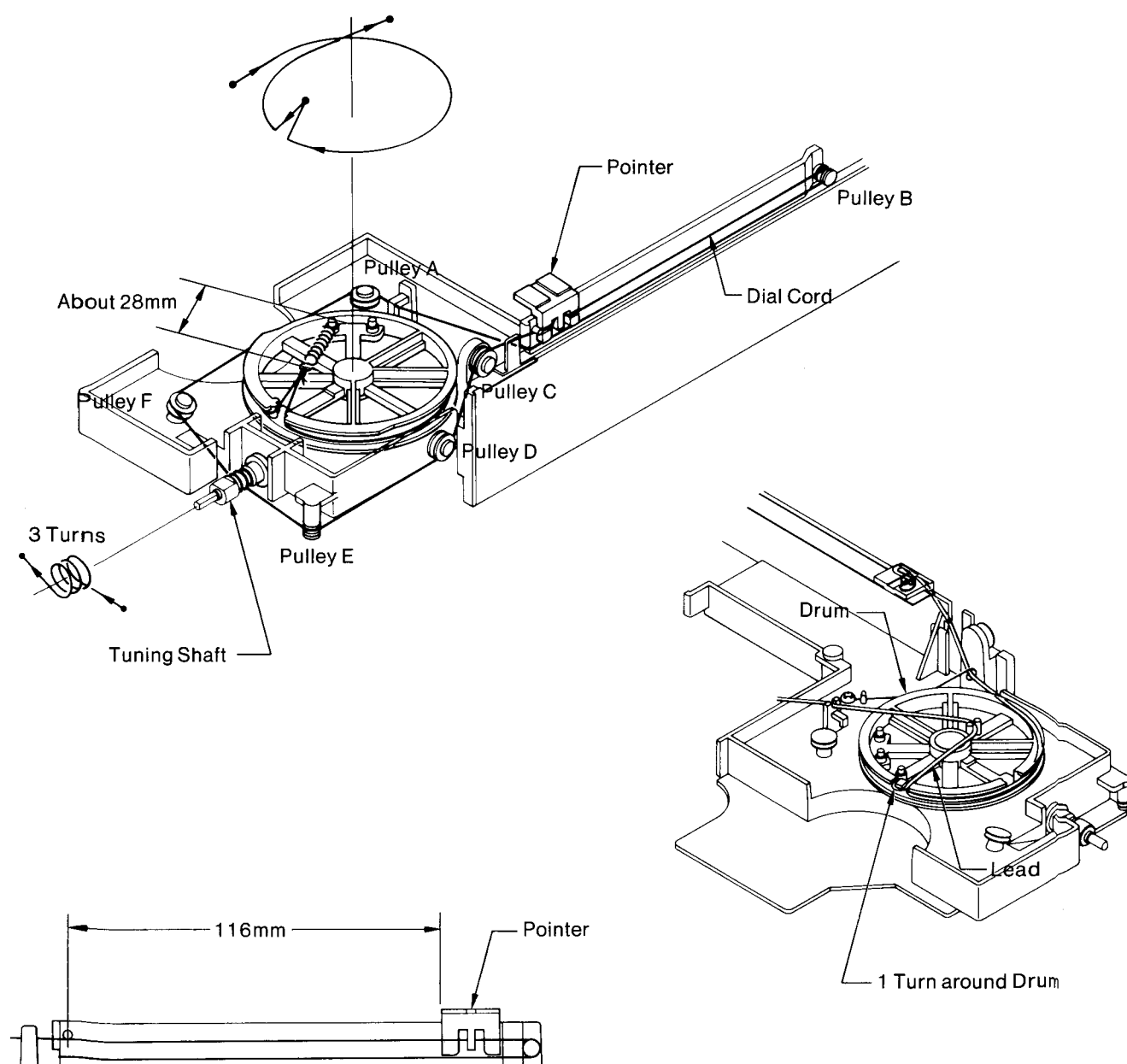
MC-Service

# DIAL CORD STRINGING

1. Mount the Radio Tuner P.C.Board on the Radio Chassis and then, the shaft of the variable condenser on the Drum.
2. Tie the dial cord of length 1,100mm (effective length: 1,010mm) and diameter  $\phi 0.5$  to the spring and hook the spring to the illustration position of the drum.
3. Engage the dial cord as illustrated in the following order.  
Drum (1 turn)  $\rightarrow$  Pulley A  $\rightarrow$  Pulley B  $\rightarrow$  Pulley C  $\rightarrow$  Pulley D  $\rightarrow$  Pulley E  $\rightarrow$  Tuning Shaft (3 turns)  $\rightarrow$  Pulley F  $\rightarrow$  Drum  $\rightarrow$  Spring
4. Hook the dial cord to the spring and expand the dial cord until the spring length becomes about 28mm. Then, tie the dial cord to the spring.
5. Secure the place where the spring is hooked to the drum and the knot in the dial cord with paint or glue.
6. Turn the Tuning Shaft counter-clockwise until it stops and set the pointer, where the LED is mounted and the LED lead are connected, to the place 116mm away from the mark on the Radio Chassis. Then, attach the pointer to the dial cord and secure it with white lacquer.
7. Turn the Tuning Shaft clockwise to set the pointer to the right end.
8. Arrange the lead of the LED (Tuning Indicator) connected to the pointer with a little looseness as illustrated.
9. Apply white lacquer to the area where the lead is connected.

## NOTE:

Refer to the Circuit Diagram for soldering position of the lead.



MC-Service



# PARTS LIST

Ref. No.	Parts No.	Description	Q'ty	Ref. No.	Parts No.	Description	Q'ty
<b>PACKAGE</b>				CA29	141 2 4419 10400	Cushion	1
141 6	1419 58102	Individual Carton	1	CA30	141 2 5389 03500	Drum, Dial	1
141 6	1449 75100	Styrofoam	1	CA31	141 2 5119 06200	Pointer	1
141 6	1449 75200	Styrofoam Case, R	1	CA32	141 2 2899 13900	Adhesive Sheet	2
141 6	1449 75300	Styrofoam Case, L	1	CA33	628 3 0912 00000	String, $\phi 0.5$	1
141 6	1449 76500	Styrofoam	1	CA34	141 2 2449 42400	Sheet, Pointer	1
141 6	2519 13790	Poly Cover	1	CA35	202 5 8200 20213	LED, SLP202C (Tuning) [D11]	1
141 6	4559 03200	Serial No. Sheet	3	CA36	141 2 1439 10700	Plate	1
<b>ACCESSORIES</b>				CA37	141 2 8529 08800	Wire Guide	1
4	2419 74040	Micro Cassette	1	CA38	141 2 1619 91700	Knob	1
4	2419 74052	Cassette	1	CA39	141 2 8259 04700	Dial Roller	2
4	2439 70310	Power Cord	1	CA40	141 2 4219 14000	Screw	6
141 6	2519 11022	Poly Cover 110 x 220	1	CA41	141 2 5519 03300	Dial Roller A	4
141 6	2519 25035	Poly Cover 250 x 350	1	CA42	141 2 1619 91800	Knob	3
141 6	4519 19400	Warranty Card	1	CA43	141 2 1619 94300	Knob	1
141 6	4729 07400	Caution Label	1	CA44	141 2 4179 05000	Nut M10	1
141 6	4729 07700	Caution Label	1	CA45	141 2 5519 25400	Gear	2
141 6	4729 35700	FTZ Notice	1	CA46	141 2 7519 35000	Shaft, Knob	1
142 6	4119 28900	Instruction Manual	1	CA47	141 2 3659 16900	Bracket, Gear	1
<b>CABINET</b>				CA48	141 2 1619 94100	Knob, Switch	1
4	2359 70990	RT Pin Socket	3	CA49	4 2319 73410	Push Switch (FM Mode) [S16]	1
4	2359 75373	Connector 3P Assy [CN4]	1	CA50	4 1259 71670	Radio Tuner P.C.B. Assy [See PCB2]	1
4	2359 75392	Connector 4P Assy [CN5]	1	CA51	4 1329 77360	Volume Control P.C.B. Assy [See PCB4]	1
4	2359 75561	Connector 4P Assy [CN6]	1	CA52	141 2 3529 35500	Spacer	1
141 2	2899 13900	Adhesive Sheet	4	CA53	141 2 3659 17000	Bracket, Volume	1
141 2	2899 22700	Adhesive Sheet	2	CA54	141 2 3829 32100	Lug	1
141 2	2899 22800	Adhesive Sheet	1	CA55	4 2249 70660	Fine Tuner [FT1]	1
141 2	2899 22900	Adhesive Sheet	1	CA56	141 2 2419 22100	Screen, Switch	2
C153	CB4 7 5160 0000H	None-polar	4.7 $\mu$ F 16V	CA57	141 2 4469 29100	Cushion, Switch Screen	2
C253	CB4 7 5160 0000H	None-polar	4.7 $\mu$ F 16V	CA58	141 2 1619 94000	Knob, Select	2
C324	CD1 0 7160 0001V	Electrolytic	100 $\mu$ F 16V	CA59	141 0 7419 32000	Switch Lever Assy	2
R331	RD1 0 3251 JM000	Carbon	10k $\Omega$ 1/4W $\pm 5\%$	CA60	4 2229 73442	Volume Control (Mix. A-20k $\Omega$ ) [VR:O1]	1
CA1	141 2 1619 91600	Knob	1	CA61	141 2 3659 17100	Bracket, Volume	1
CA2	141 2 4729 04100	Lug	3	CA62	141 0 3119 20402	Radio Chassis Assy	1
CA3	141 2 4729 04200	Lug	1	CA63	141 2 4469 17200	Cushion	1
CA4	4 2319 72130	Slide Switch (Voltage Select) [S17]	1	CA64	4 2379 70650	Terminal Ring	3
CA5	141 2 4359 21300	Socket Cover	1	CA65	141 2 4219 15700	Screw	2
CA6	4 1919 71462	Power Supply P.C.B. Assy [See PCB3]	1	CA66	141 0 1719 09801	Handle Assy	1
CA7	141 2 4219 25800	Screw	2	CA67	141 2 1339 25702	Lid	1
CA8	4 2519 73600	Power Trans [T303]	1	CA68	141 0 2529 00300	Lid Bracket Assy	1
CA9	141 2 4219 20900	Screw	5	CA69	141 2 4569 07500	Washer	2
CA10	141 2 4219 11200	Screw	7	CA70	141 2 4469 14405	Cushion	3
CA11	141 0 1339 09900	Battery Lid Assy	1	CA71	4 1519 71033	Speaker (3.2 $\Omega$ /Right) [SP102]	1
CA12	141 0 1119 80103	Cabinet Bottom Assy	1	CA72	4 1329 77460	LED P.C.B. Assy [See PCB5]	1
CA13	141 2 4729 00200	Lug	1	CA73	141 2 4219 15600	Screw	8
CA14	4 2449 70270	Rod Antenna	1	CA74	4 1519 70860	Speaker (3.2 $\Omega$ ) [SP101/Right]	2
CA15	141 2 2149 02600	Ribbon, Battery	1	CA74	4 1519 70860	Speaker (3.2 $\Omega$ ) [SP101/Left]	2
CA16	141 2 4569 05100	Ring	1	CA75	4 1519 71032	Speaker (3.2 $\Omega$ /Left) [SP202]	1
CA17	141 0 3229 00400	Shield Plate Assy	1	CA76	141 2 8539 44600	Spring, Stopper	1
CA18	4 1329 77352	Amplifier P.C.B. Assy [See PCB1]	1	CA77	141 2 4569 05500	Washer	1
CA19	141 2 4219 25000	Dress Screw	2	CA78	141 0 2529 00200	Lid Bracket Assy	1
CA20	141 2 1319 23300	Clear Window	1	CA79	141 2 1319 23503	Dial Window	1
CA21	141 0 1249 20000	Lid Panel Assy	1	CA80	141 2 1559 05400	Grill, Twitter	2
CA22	141 2 4219 25100	Dress Screw	2	CA81	141 2 1519 30900	Grill, Twitter	2
CA23	141 2 1319 23400	Clear Window	1	CA82	141 2 2419 25900	Veil	2
CA24	141 0 1249 20100	Lid Panel Assy	1	CA83	141 2 1219 20500	Window Panel	1
CA25	141 2 1639 44800	Tuning Knob	1	CA84	141 2 2449 39900	Sheet, Mike	2
CA26	141 2 8539 25300	Spring, Fine Tuning Knob	1	CA85	141 2 2719 16800	Holder Microphone	2
CA27	141 2 1639 44900	Knob, Fine	1	CA86	4 1539 70661	Microphone [BM101/Right]	2
CA28	141 2 8519 06700	Spring, Cassette Case Lever B	1	CA86	4 1539 70661	Microphone [BM201/Left]	2
				CA87	141 2 1519 30702	Grill, Speaker	2
				CA88	141 2 1339 25900	Plate, Button	1
				CA89	141 2 1619 93600	Knob, Switch	1
				CA90	141 2 2449 40400	Seet, Knob	1

## PARTS LIST (Continued)

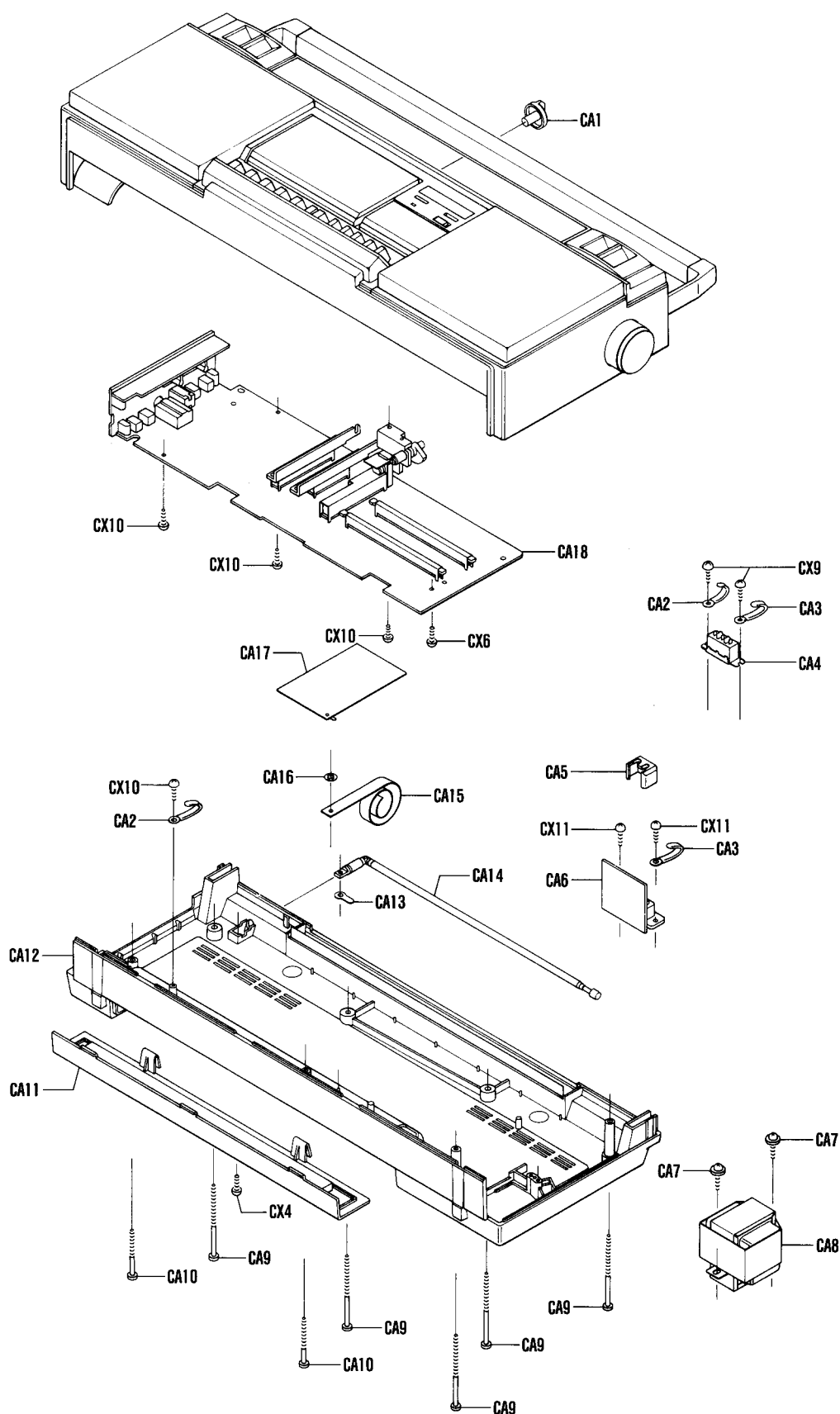
Ref. No.	Parts No.	Description	Q'ty
CA91	141 0 1119 84700	Completed Cabinet Top	1
CA92	141 2 4569 04200	Ring	1
CA93	141 2 1429 11400	Badge	1
CA94	4 5119 70740	Indicator P.C.B. Assy [See PCB6]	1
CX1	101 3 1302 00413	Screw, Pan Hd. +M2.0x4	2
CX2	101 3 1302 00611	Screw, Pan Hd. +M2.0x6	2
CX3	101 3 1302 60413	Screw, Pan Hd. +M2.6x4	2
CX4	101 3 1302 60618	Screw, Pan Hd. +M2.6x6	1
CX5	101 3 1303 00611	Screw, Pan Hd. +M3.0x6	2
CX6	101 3 1303 00811	Screw, Pan Hd. +M3.0x8	1
CX7	103 3 1302 60611	Screw, Pan Hd. Tapping-2 +M2.6x6	1
CX8	103 3 1303 01219	Screw, Pan Hd. Tapping-2 +M3.0x12	5
CX9	143 3 1303 00811	Screw, Pan Hd. Tapping-B +M3.0x8	2
CX10	143 3 1303 01011	Screw, Pan Hd. Tapping-B +M3.0x10	22
CX11	143 3 1303 01211	Screw, Pan Hd. Tapping-B +M3.0x12	2
CX12	143 3 1303 01411	Screw, Pan Hd. Tapping-B +M3.0x14	3
CX13	112 3 1302 00082	E Ring M2.0	1

**NOTES:**

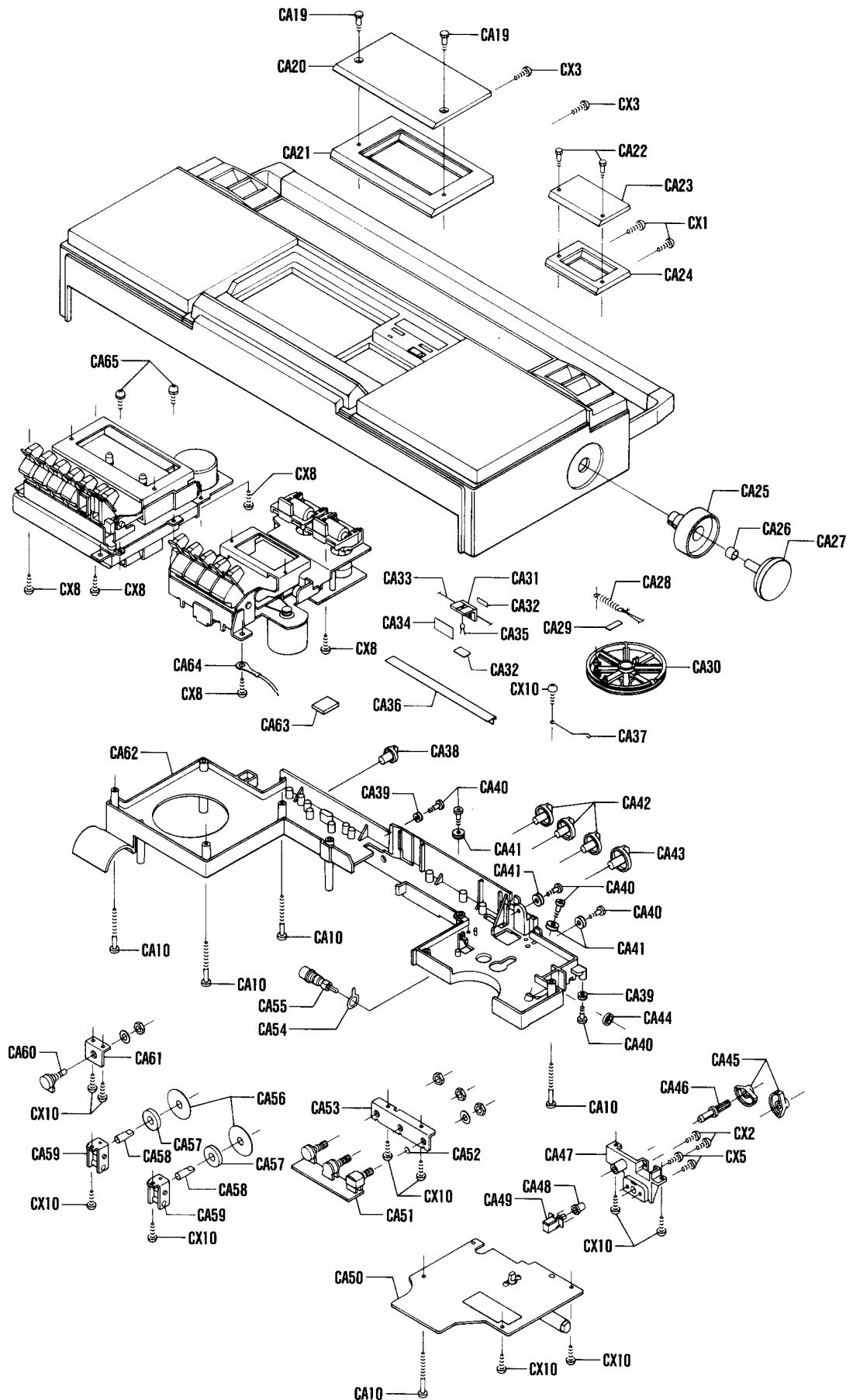
1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

*MC-Service*

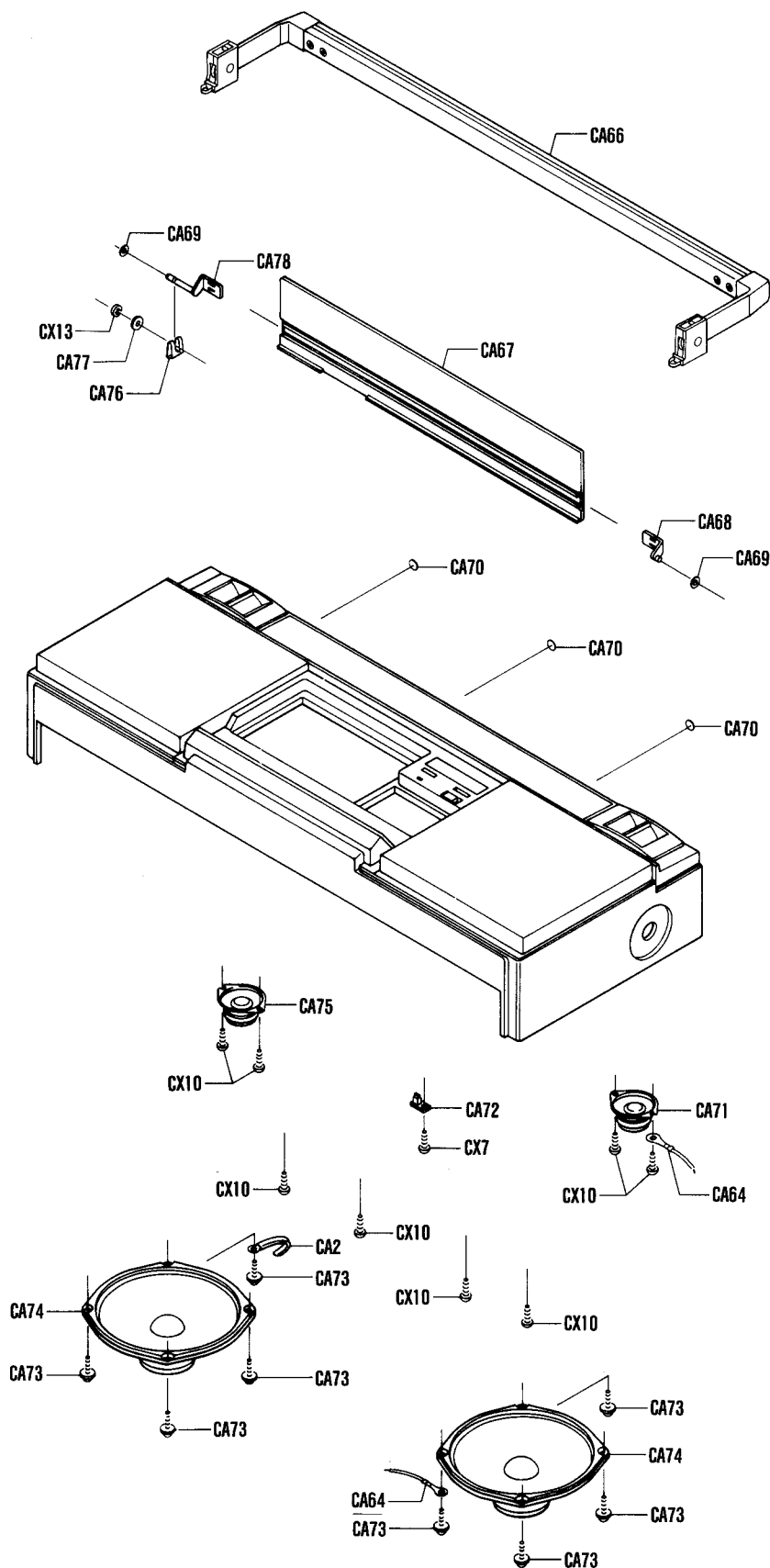
# CABINET EXPLODED VIEW



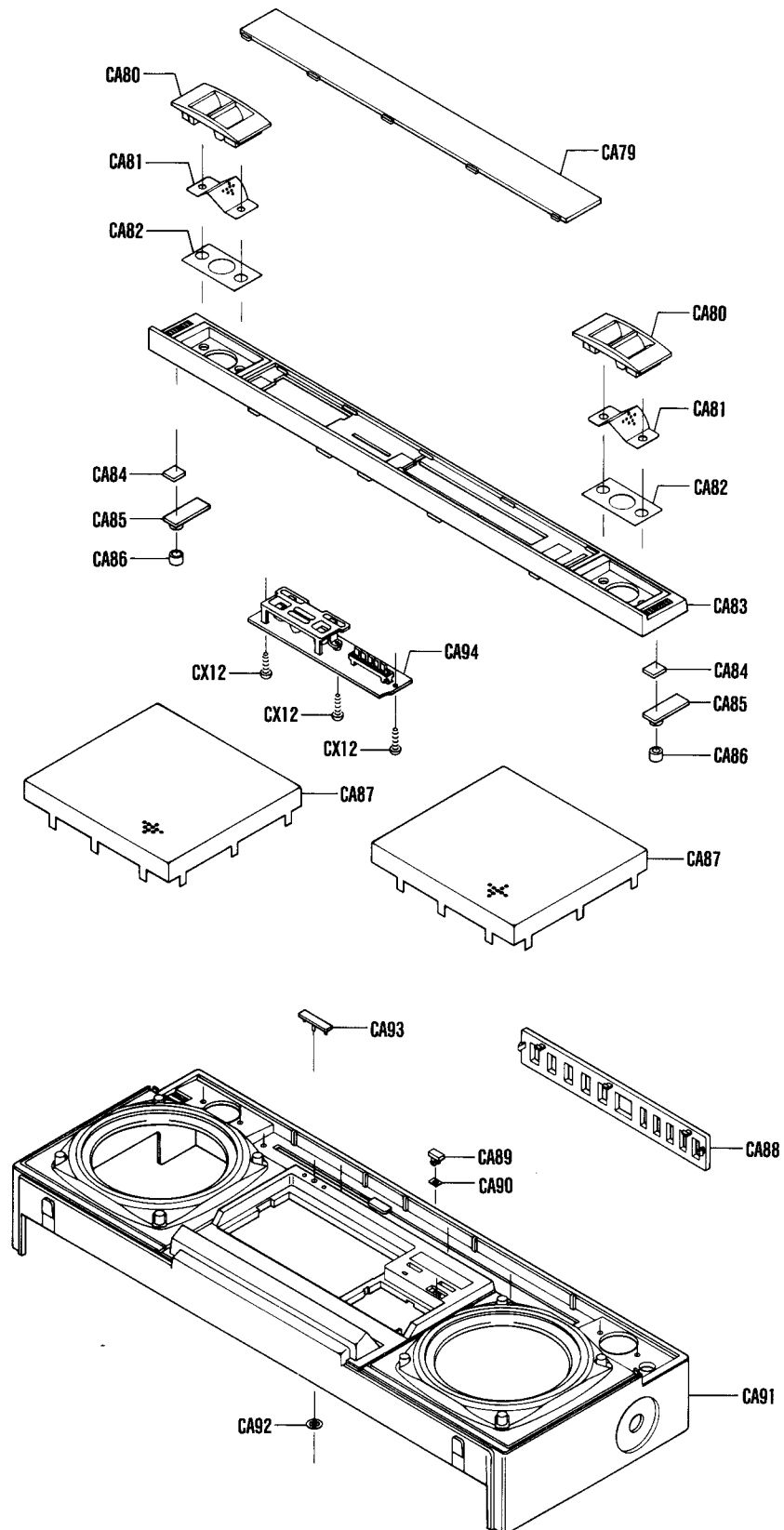
# CABINET EXPLODED VIEW (Continued)



## CABINET EXPLODED VIEW (Continued)



# CABINET EXPLODED VIEW (Continued)



# MECHANISM PARTS LIST

Ref. No.	Parts No.	Description	Q'ty	Ref. No.	Parts No.	Description	Q'ty
<b>MECHANISM</b>				MC64	141 0 7439 06300	Take-up Arm Assy	1
MC1	141 2 5519 39700	Gear Actuate Plate	2	MC65	141 2 8519 71900	Spring, Take-up Arm	1
MC2	141 0 3169 07200	Dumper Bracket Assy	1	MC66	141 2 5519 22000	Take-up Gear	1
MC3	141 2 4729 04100	Lug	2	MC67	141 2 7419 48100	Fast Wind Lever	1
MC4	141 2 1149 20800	Cabinet Compartment	1	MC68	141 2 4219 05400	Screw w/Washer	1
MC5	141 2 1449 45200	Compartment Plate	1	MC69	141 2 8519 70300	Spring, Pause Plate	2
MC6	141 2 8539 31400	Spring, Cassette	2	MC70	141 2 7319 34000	Pause Plate	1
MC7	141 2 3519 37000	Cassette Holder, Left	1	MC71	141 2 8539 31300	Spring, Cassette	1
MC8	141 2 5559 06600	Rack Gear	1	MC72	4 2379 70650	Terminal Ring	1
MC9	141 2 4219 13201	Screw w/Washer	1	MC73	141 2 8219 24400	Chip, Cassette Lid Lock	1
MC10	141 2 8549 06200	Spring, Cassette Lid	1	MC74	141 2 7319 33000	Plate, Cassette Lid Lock	1
MC11	141 2 1249 22401	Cassette Lid Frame	1	MC75	141 2 5519 22400	Rewind Gear	1
MC12	141 2 3519 37100	Cassette Holder, Right	1	MC76	141 2 4539 06700	Washer	1
MC13	141 2 4729 04000	Lug	3	MC77	141 2 8539 35800	Spring, Flywheel	1
MC14	141 2 3789 07800	Bracket, Motor	1	MC78	141 2 4539 18400	Washer	1
MC15	4 5279 71071	Motor (Compact) [M1]	1	MC79	141 0 5219 03901	Flywheel Assy	1
MC16	141 2 3169 17400	Chassis Bracket	1	MC80	141 2 5649 02300	Belt	1
MC17	141 2 7419 75600	Pause Button Lever	1	MC81	141 0 7319 23700	Switch Lever Assy	1
MC18	141 0 3119 14509	Chassis Assy	1	MC82	141 0 3519 20200	Support Flywheel Assy	1
MC19	141 2 7319 32202	Slide Base Plate	1	MC83	141 2 4469 00500	Flywheel Thrust	2
MC20	141 2 8519 74100	Spring, Record	1	MC84	141 2 3229 34700	Shield Plate	1
MC21	141 2 6139 13104	Button Frame	1	MC85	141 2 8519 68100	Spring, Pause	1
MC22	141 2 7419 55900	Pause Lever	1	MC86	141 2 8519 73400	Spring, Stop Lever	1
MC23	141 2 8519 75300	Spring, Pause Lever	1	MC87	141 2 7419 51701	Stop Lever	1
MC24	141 2 7419 51000	Review Lever	1	MC88	141 2 5649 11100	ASO Belt	1
MC25	141 2 7419 58300	Cue Lever	1	MC89	141 2 5519 27200	ASO Pulley	1
MC26	141 0 1619 31300	Button Lever Assy	1	MC90	141 2 4539 15800	Washer	4
MC27	141 0 1619 30900	Button Lever Assy	1	MC91	141 2 7419 51600	ASO Lever	1
MC28	141 0 1619 31200	Button Lever Assy	1	MC92	141 2 8519 72000	Spring, ASO	1
MC29	141 0 1619 31100	Button Lever Assy	3	MC93	141 0 5519 05901	Friction Assy	1
MC30	141 0 1619 33200	Button Lever Assy	1	MC94	141 2 5649 09900	Take-up Belt	1
MC31	141 2 6129 05400	Spindle, Button Lever	1	MC95	4 2319 72010	Leaf Switch (Play/Cmpact) [S12]	1
MC32	141 2 8519 90700	Spring, Button Lever	1	MC96	141 2 4219 12100	Screw w/Washer	1
MC33	141 2 8519 70101	Spring, Button Lever	2	MC97	141 2 7419 51900	Stop/Eject Lever	1
MC34	141 2 8519 70100	Spring, Button Lever	1	MC98	141 2 3529 17900	Spacer, Brake	1
MC35	141 2 3529 19100	Spacer, Base	1	MC99	141 2 8519 19300	Spring, Brake	1
MC36	141 0 7319 18901	Plate Assy	1	MC100	141 2 7319 40800	Lock Plate	1
MC37	141 2 8519 78600	Spring, Slide Base	1	MC101	141 2 4219 14600	Screw w/Washer	2
MC38	141 2 3529 20600	Spacer, Switch Plate	1	MC102	141 2 7419 65700	Record Stop Lever	1
MC39	141 2 8519 78200	Spring, Switch Plate	1	MC103	141 2 3529 26500	Spacer	2
MC40	141 2 7319 40700	Switch Plate	1	MC104	141 2 7419 48300	Record Stop Lever	1
MC41	141 2 4219 13200	Screw w/Washer	4	MC105	141 2 8519 16700	Spring, Eject Slide Plate	1
MC42	141 2 3529 21900	Spacer, Erase Head	1	MC106	141 2 7419 65900	Record Lock Lever	1
MC43	141 2 8519 75500	Spring	2	MC107	141 2 8429 05402	Record Plate	1
MC44	4 2429 71880	Erase Head (Compact) [HD2]	1	MC108	141 2 4459 20501	Brake Cover	2
MC45	141 2 8519 71800	Spring, Interlock	1	MC109	141 2 7149 03400	Brake	1
MC46	141 2 8419 09400	Interlock Lever	1	MC110	141 2 8519 61600	Spring, Brake	1
MC47	141 2 5369 00400	Cap, Reel Plate	2	MC111	141 0 3119 20000	Sub Chassis Assy	1
MC48	141 2 4539 27100	Washer	1	MC112	141 2 4219 15700	Screw	5
MC49	141 2 5319 03500	Reel Fin	2	MC113	141 2 8539 43900	Spring, Button	1
MC50	141 2 8519 67901	Spring, Supply Reel	1	MC114	141 2 6619 02800	Pulley	2
MC51	141 2 5319 05100	Reel Gear	2	MC115	141 2 7419 75900	Stop Lever	1
MC52	141 2 8519 67900	Spring, Reel	1	MC116	141 2 4539 23700	Spacer	7
MC53	141 2 8539 31001	Spring, Base	1	MC117	141 2 4359 26800	Sheet	1
MC54	4 2319 72010	Leaf Switch (Power/Cmpact) [S13]	1	MC118	141 2 4539 27101	Washer	1
MC55	4 2429 71674	R/P Head (Compact) [HD1]	1	MC119	141 2 8529 05900	Spring, Pause Plate	1
MC56	141 2 3529 18101	Spacer, Head	1	MC120	141 2 7439 25600	Pause Lock Plate	1
MC57	141 2 4219 09000	Screw	2	MC121	141 0 7419 30800	Pause Lever Assy	1
MC58	141 2 7319 37900	Head Plate	1	MC122	141 2 8519 64700	Spring, Record Lever	2
MC59	141 0 5419 02401	Pinch Roller Assy	1	MC123	141 2 8529 07400	Spring, Cassette Lid	1
MC60	141 2 8519 67700	Spring, Pinch Roller	1	MC124	141 2 1249 28200	Frame, Cassette Lid	1
MC61	141 2 8519 67100	Spring, Fast Wind	1	MC125	141 2 1249 28100	Cassette Lid Guide, Left	1
MC62	141 0 7439 05400	Fast Wind Arm Assy	1	MC126	141 2 1249 28000	Cassette Lid Guide, Right	1
MC63	141 2 5519 22300	Gear, Fast Wind	2	MC127	141 2 5559 06700	Rack Gear, Micro	1



# MECHANISM PARTS LIST (Continued)

Ref. No.	Parts No.	Description	Q'ty	Ref. No.	Parts No.	Description	Q'ty
MC128	141 0 1619 31600	Button Lever, Micro Assy	1	MC192	141 2 8529 07500	Spring, Interlock	1
MC129	141 0 1619 31500	Button Lever, Micro Assy	2	MC193	141 2 7439 29500	Arm, Record Link	1
MC130	141 0 1619 31400	Button Lever, Micro Assy	1	MC194	141 2 4539 19700	Washer	2
MC131	141 0 1619 33300	Button Lever Assy	1	MC195	141 2 7439 17200	Arm, Record Lock	1
MC132	141 2 4219 11400	Screw	2	MC196	141 2 8519 82400	Spring, Record Lock Arm	1
MC133	141 2 4459 15900	Cushion, Motor	2	MC197	141 2 7439 17100	Arm, Record Remove	1
MC134	141 2 8139 07300	Counter Support	1	MC198	141 2 7439 26300	Interlock	1
MC135	141 2 1619 90700	Reset Button	2	MC199	141 2 7439 16700	Eject Actuate Arm	1
MC136	141 2 8119 09900	Counter	1	MC200	141 0 8419 04200	Record Lever Assy	1
MC137	141 2 5649 07700	Counter Belt	1	MC201	141 0 3169 07300	Bracket Assy	1
MC138	141 2 8119 10000	Counter	1	MC202	141 0 3659 01200	Base Switch P.C.B. Assy [See PCB8]	1
MC139	141 2 5649 09600	Belt Counter	1	MC203	141 2 4219 15401	Screw	2
MC140	141 2 7419 76900	Switch Lever	1	MC204	141 0 3169 04900	F.F. ACT Bracket Assy	1
MC141	141 2 4619 07100	Spacer, Switch Lever	1	MC205	141 2 8519 85500	Spring, F.F. Actuate	1
MC142	4 2869 70580	Motor Governor P.C.B. Assy [See PCB7]	1	MC206	141 2 4539 18200	Washer	1
MC143	141 2 8529 06100	Spring, Cassette Lock	1	MC207	141 2 5519 31700	F.F. Idle Gear	1
MC144	141 2 7419 76300	Cassette Lid Lock	1	MC208	141 2 8519 83700	Spring, Platelock	1
MC145	141 2 6129 05500	Button Spindle, Micro	1	MC209	141 2 7319 38600	Interlock, F.F. REC	1
MC146	141 2 3169 17600	Bracket, Sub Chassis	1	MC210	141 2 7319 38800	Lock Plate	1
MC147	4 5279 71130	Motor (Micro) [M2]	1	MC211	141 0 7419 30600	F.F. Lever Assy	1
MC148	141 0 8419 04100	Record Lever Assy	1	MC212	141 2 8519 84100	Spring, F.F. Lever	1
MC149	141 2 8419 11000	Record Lever	1	MC213	141 2 4539 19800	Washer	1
MC150	4 2319 72570	Leaf Switch (Pause) [S10]	1	MC214	141 2 7319 38900	Eject ACT Lever	1
MC151	141 2 3519 57000	Flywheel Support	1	MC215	141 2 8519 84800	Spring, Base	2
MC152	4 2319 72774	Leaf Switch (Power/Micro) [S15]	1	MC216	141 2 8519 83500	Spring, F.F. Actuate	1
MC153	141 0 5219 08600	Flywheel Assy	1	MC217	141 2 3529 23800	Spacer, F.F. Actuate	2
MC154	141 2 5649 13800	Belt, Flywheel	1	MC218	141 2 7319 39000	F.F. ACT Lever	1
MC155	141 2 4539 13000	Washer	2	MC219	141 2 4219 23900	Screw, Azimuth	1
MC156	141 2 8559 00700	Spring, Thrust	1	MC220	141 2 4569 07000	Spring Washer	2
MC157	4 2319 75230	Leaf Switch (Play/Micro) [S14]	1	MC221	4 2429 71930	R/P Head (Micro) [HD3]	1
MC158	141 2 7419 76400	Stop Lever	1	MC222	141 2 3529 35600	Spacer, Head	1
MC159	141 2 8529 06000	Spring, Eject Sensor	1	MC223	141 2 8519 82900	Spring, Azimuth	1
MC160	141 2 7539 11100	Bush, Eject Lever	1	MC224	141 2 4219 02900	Screw	1
MC161	141 2 7419 76200	Eject Sensor	1	MC225	141 0 3759 00700	Head Base Assy	1
MC162	141 2 7419 76100	Eject Lever	1	MC226	141 0 5419 03600	Pinch Roller Assy	1
MC163	141 0 3119 17804	Completed Chassis	1	MC227	141 2 8549 08200	Spring, Pinch Roller	1
MC164	141 2 4539 20400	Washer	1	MC228	4 2429 71940	Erase Head (Micro) [HD4]	1
MC165	141 0 7439 07700	Review Arm Assy	1	MC229	141 2 4179 04600	Nut	1
MC166	141 2 8519 82300	Spring, Review	1	MC230	141 2 3759 03800	Erase Head Base	1
MC167	141 2 8519 82600	Spring, Idler Arm	1	MC231	141 2 8539 43300	Spring, Erase Head	1
MC168	141 0 5559 05501	Idler Arm Assy	1	MC232	141 2 4729 01000	Lug	1
MC169	141 2 3529 23500	Spacer, Idler Arm	1	MC233	141 2 8519 79800	Spring, Pinch Roller	1
MC170	141 2 4539 14900	Washer	1	MC234	141 2 1219 20700	Chassis Plate	1
MC171	141 2 5519 31600	Take-up Idler	1	MC235	141 0 7419 30500	Slide Base Assy	1
MC172	141 2 4539 17500	Washer	2	MC236	141 2 4539 18100	Washer	1
MC173	141 2 5519 31900	Secondary Gear	1	MC237	141 2 7519 56100	Spacer	1
MC174	141 2 5529 12900	Spacer, Second Gear	1	MC238	141 2 7319 50200	Select Slider	1
MC175	141 2 3529 23900	Spacer, Rewind Gear	1	MC239	141 2 7439 26400	Review Arm	1
MC176	141 0 7439 07501	Line Gear Arm Assy	1	MC240	141 2 7439 29400	Record Actuate Arm	1
MC177	141 2 8519 83600	Spring, Line Gear	1	MC241	141 2 3529 35200	Spacer, REC ACT Arm	1
MC178	141 2 5519 32000	Primary Gear	1	MC242	141 2 8519 87700	Spring, Record Arm	1
MC179	141 2 4539 18300	Washer	1	MC243	141 2 4579 03800	Washer	1
MC180	141 2 5519 31800	Rewind Idle Gear	1	MZ1	101 3 1302 00411	Screw, Pan Hd. +M2.0x4	12
MC181	141 2 5529 13000	Pin, Rewind Gear	1	MZ2	101 3 1302 00511	Screw, Pan Hd. +M2.0x5	5
MC182	141 2 8519 83000	Spring, Rewind	1	MZ3	101 3 1302 00811	Screw, Pan Hd. +M2.0x8	3
MC183	141 2 4539 23500	Washer, 2.1X5.5X0.5	1	MZ4	101 3 1302 60611	Screw, Pan Hd. +M2.6x6	4
MC184	141 0 7419 30700	Rewind Lever Assy	1	MZ5	101 3 1303 00411	Screw, Pan Hd. +M3.0x4	2
MC185	141 2 8519 84000	Spring, Rewind Lever	1	MZ6	101 3 1702 00811	Screw, Bind Hd. +M2.0x8	1
MC186	141 2 7319 50201	Select Slider	3	MZ7	101 3 1702 01011	Screw, Bind Hd. +M2.0x10	1
MC187	141 2 8519 84900	Spring, Record Actuate	1	MZ8	101 3 2502 00811	Screw, Cylinder Hd. -M2.0x8	1
MC188	141 2 4539 08000	Washer	1	MZ9	103 3 1302 00418	Screw, Pan Hd. Tapping-2 +M2.0x4	1
MC189	141 0 8429 01301	Record Actuator Assy	1	MZ10	103 3 1302 00511	Screw, Pan Hd. Tapping-2 +M2.0x5	4
MC190	141 2 4579 03900	Washer	1	MZ11	103 3 1302 60511	Screw, Pan Hd. Tapping-2 +M2.6x5	6
MC191	141 2 7439 17000	REW Interlock	1	MZ12	103 3 1302 60611	Screw, Pan Hd. Tapping-2 +M2.6x6	2

## MECHANISM PARTS LIST (Continued)

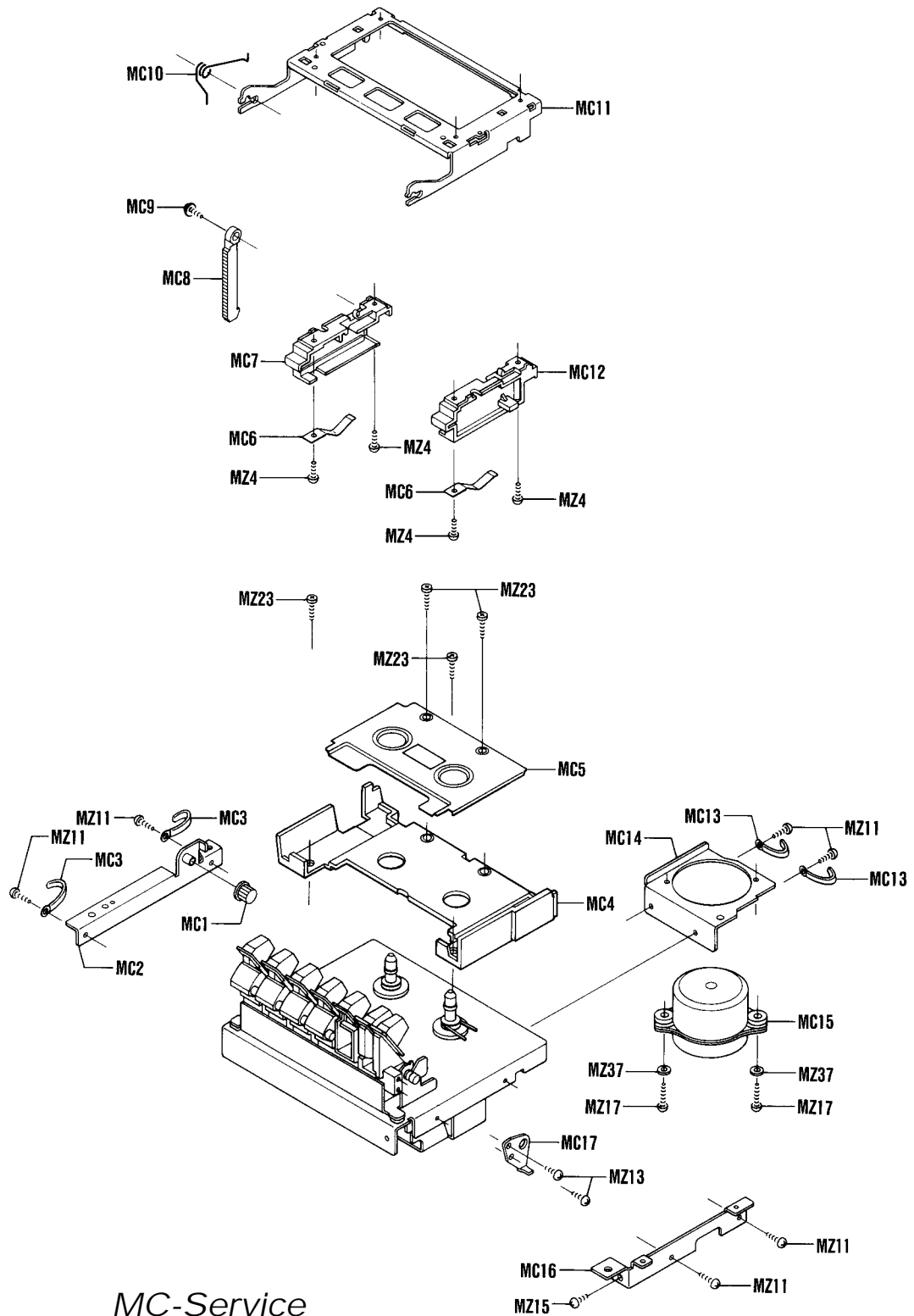
Ref. No.	Parts No.	Description	Q'ty
MZ13	103 3 1302 60811	Screw, Pan Hd. Tapping-2 +M2.6x8	2
MZ14	103 3 1302 61011	Screw, Pan Hd. Tapping-2 +M2.6x10	1
MZ15	103 3 1303 00611	Screw, Pan Hd. Tapping-2 +M3.0x6	1
MZ16	103 3 1303 00811	Screw, Pan Hd. Tapping-2 +M3.0x8	2
MZ17	103 3 1303 01411	Screw, Pan Hd. Tapping-2 +M3.0x14	2
MZ18	103 3 1702 00811	Screw, Bind Hd. Tapping-2 +M2.0x8	1
MZ19	103 3 1702 60811	Screw, Bind Hd. Tapping-2 +M2.6x8	1
MZ20	104 3 1702 00611	Screw, Bind Hd. Tapping-3 +M2.0x6	1
MZ21	143 3 1302 60811	Screw, Pan Hd. Tapping-B +M2.6x8	1
MZ22	143 3 1303 01011	Screw, Pan Hd. Tapping-B +M3.0x10	1
MZ23	143 3 1702 60818	Screw, Bind Hd. Tapping-B +M2.6x8	4
MZ24	127 3 1314 01613	PI Screw, Pan Hd.-1 +M1.4x1.6	2
MZ25	127 3 1314 02013	PI Screw, Pan Hd.-1 +M1.4x2.0	3
MZ26	127 3 1314 03013	PI Screw, Pan Hd.-1 +M1.4x3.0	3
MZ27	128 3 1314 05018	PI Screw, Pan Hd.-2 +M1.4x5.0	1
MZ28	128 3 1317 02018	PI Screw, Pan Hd.-2 +M1.7x2.0	3
MZ29	128 3 1317 04013	PI Screw, Pan Hd.-2 +M1.7x4.0	1
MZ30	112 3 1301 20082	E Ring M1.2	11
MZ31	112 3 1301 50082	E Ring M1.5	9
MZ32	112 3 1302 00040	E Ring M2.0	3
MZ33	112 3 1302 00082	E Ring M2.0	4
MZ34	112 3 1302 50040	E Ring M2.5	1
MZ35	112 3 1304 00040	E Ring M4.0	3
MZ36	110 3 1202 00013	Finished Washer M2.0	1
MZ37	110 3 1203 00013	Finished Washer M3.0	2
MZ38	110 3 2101 70013	Spring Washer-2 M1.7	1
MZ39	110 3 2102 00081	Spring Washer-2 M2.0	1
MZ40	110 3 1102 00018	Sm. Round Washer M2.0	1
MZ41	110 3 1102 00013	Sm. Round Washer M2.0	1
MZ42	110 3 9210 40024	Nylon Washer M2.1x4.0x0.2	2
MZ43	110 3 9210 50024	Nylon Washer M2.1x5.0x0.2	1
MZ44	110 3 9260 60025	Mylar Washer M2.1x6.0x0.2	1
MZ45	110 3 3202 00082	Ext. Star Washer M2.0	1
MZ46	106 3 1102 00123	Hex. Nut-1 M2.0	1

### NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

*MC-Service*

# MECHANISM EXPLODED VIEW

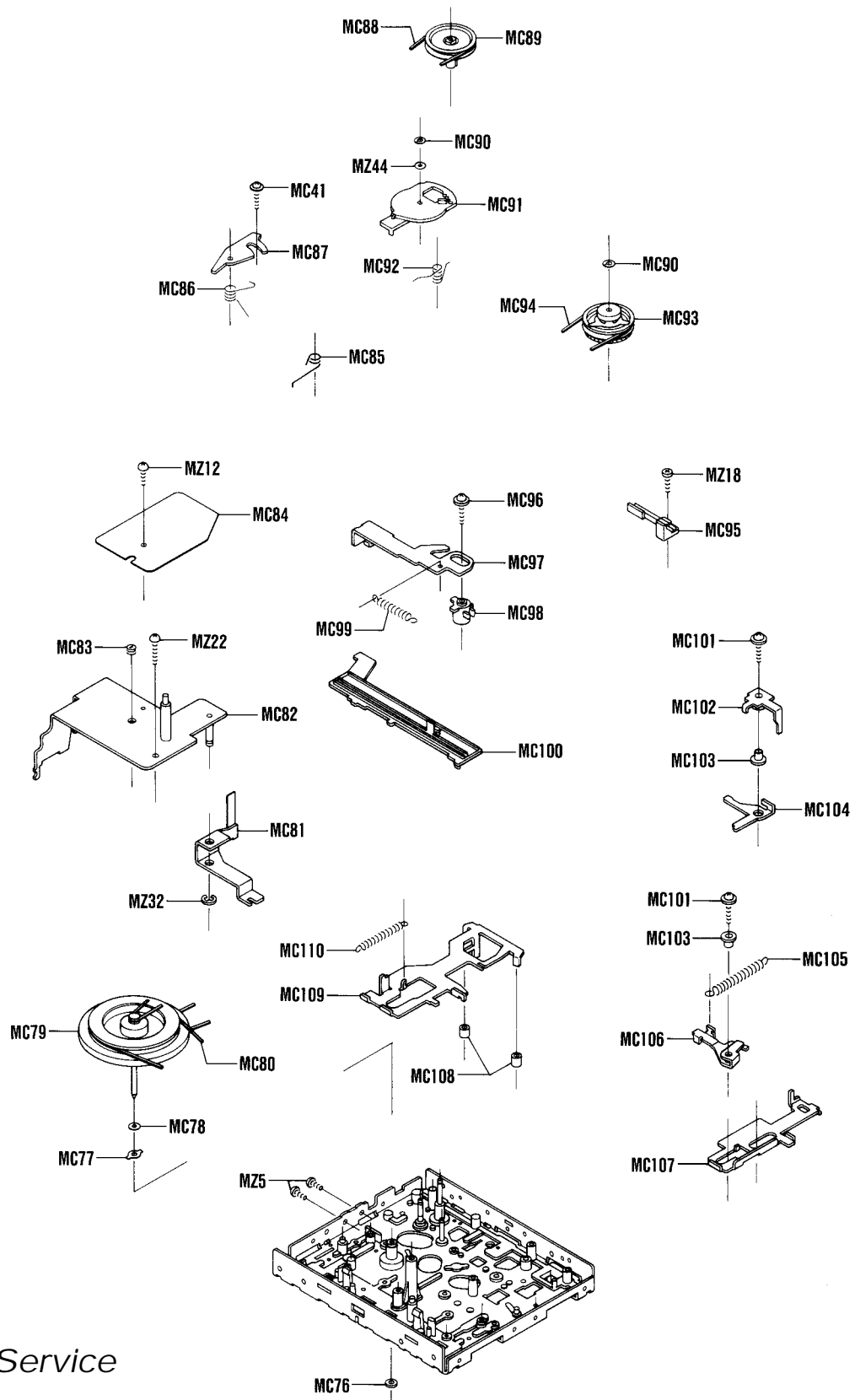


MC-Service

## MECHANISM EXPLODED VIEW (Continued)



# MECHANISM EXPLODED VIEW (Continued)

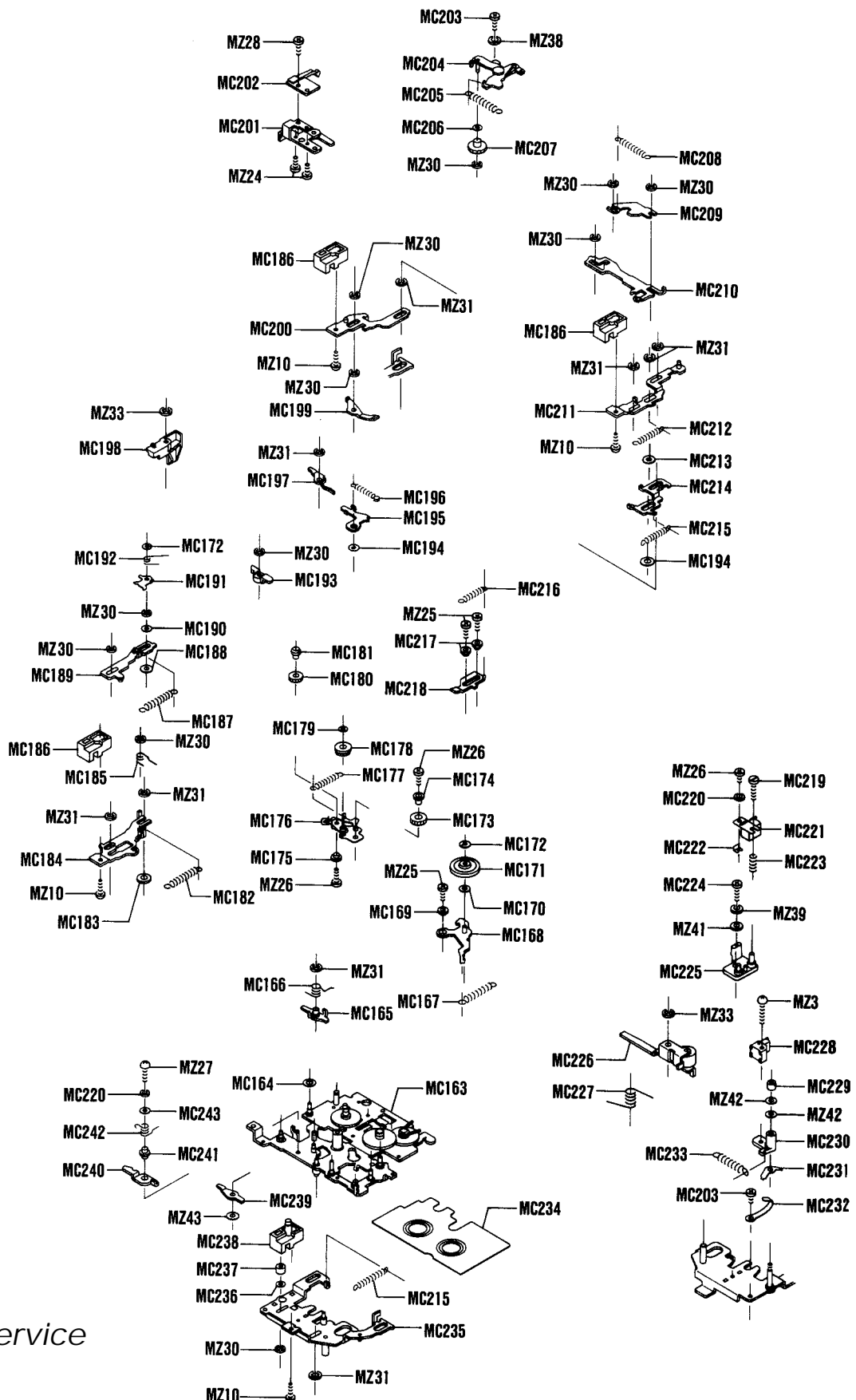


MC-Service

## MECHANISM EXPLODED VIEW (Continued)



# MECHANISM EXPLODED VIEW (Continued)



MC-Service



# P.C.BOARD PARTS LIST

Ref. No.	Parts No.	Description	Q'ty	Ref. No.	Parts No.	Description	Q'ty
<b>AMPLIFIER P.C.B. ASSY</b>				Q203	203 5 5100 53660	Transistor, 2SC 536	1
PCB1	4 1329 77352	Amplifier P.C.B. Assy	1	Q204	4 2039 70430	Transistor, 2SC 1815	1
	4 2369 70740	RT Pin	2	Q205	4 2039 70430	Transistor, 2SC 1815	1
	4 2439 71570	Flat Wire	1	Q206	203 5 4921 01275	Transistor, 2SD1012	1
101	3 1302 60611	Screw, Pan Hd. +M2.6x6	4	Q302	203 5 5100 53660	Transistor, 2SC 536	1
103	3 1303 01018	Screw, Pan Hd. Tapping-2 +M3.0x10	2	Q303	203 5 5100 53660	Transistor, 2SC 536	1
103	3 1703 00811	Screw, Blind Hd. Tapping-2 +M3.0x8	4	Q304	203 5 5100 69362	Transistor, 2SC 693	1
141	2 3169 18100	Gear Bracket	1	Q305	4 2039 70431	Transistor, 2SC 1815	1
141	2 3529 08600	Spacer, REC Lock	4	Q306	203 5 5100 53670	Transistor, 2SC 536	1
141	2 3679 30300	Jack Plate	1	Q307	203 5 5100 53660	Transistor, 2SC 536	1
141	2 4729 04700	Staple, 10mm	8	Q308	203 5 5100 53660	Transistor, 2SC 536	1
141	2 4729 05800	Staple, 15mm	7	Q309	203 5 6900 40060	Transistor, 2SD400	1
141	2 5519 25400	Gear	2	Q310	203 5 4570 73460	Transistor, 2SD 734	1
141	2 7319 50400	Switch Plate	2	Q311	203 5 4570 73460	Transistor, 2SD 734	1
141	2 7519 35000	Shaft, Knob	1	Q312	203 5 5100 53660	Transistor, 2SC 536	1
CN1	4 2359 75177	Connector 5P Assy	1	Q313	203 5 5100 53660	Transistor, 2SC 536	1
CN2	4 2369 73390	Connector 6P	1	IC301	4 2069 71390	IC, MB3106	1
CN3	4 2369 73400	Connector 10P	1	IC302	206 5 0793 16020	IC, LA 3160T	1
CN4	4 2369 73360	Connector 3P	1	IC303	206 5 0793 16020	IC, LA 3160T	1
CN5	4 2369 73370	Connector 4P	1	IC304	4 2069 71360	IC, TA7658P	1
CN6	4 2369 73370	Connector 4P	1	IC305	206 5 1624 18510	IC, LA4185	1
S2	4 2319 73901	Slide Switch (Record/Play, Compact)	1	C101	CD1 0 4500 0002V	Electrolytic 0.1μF 50V	1
S3	4 2319 73901	Slide Switch (Record/Play, Micro)	1	C102	CD1 0 5100 0000V	Electrolytic 1μF 10V	1
S4	4 2319 75090	Rotary Switch (Funcrion)	1	C103	CD4 7 6100 0001V	Electrolytic 47μF 10V	1
S5	4 2319 75080	Slide Switch (Tape Select, Micro)	1	C104	CC3 9 1500 KE00C	Ceramic 390pF 50V ±10%	1
S6	4 2319 72160	Slide Switch (Tape Select, Compact)	1	C105	CC2 2 2500 KE00C	Ceramic 0.0022μF 50V ±10%	1
J1	4 2359 73470	1P Jack (Mike, Left)	1	C106	CD4 7 5100 0000V	Electrolytic 4.7μF 10V	1
J2	4 2359 73470	1P Jack (Mike, Right)	1	C107	CD1 0 5100 0000V	Electrolytic 1μF 10V	1
J3	4 2359 71780	1P Jack (Mix. Mike)	1	C108	CC1 0 2500 KE00C	Ceramic 0.001μF 50V ±10%	1
J4	4 2359 75380	1P Jack (Headphones)	1	C109	CC3 9 1500 KE00C	Ceramic 390pF 50V ±10%	1
J5	4 2359 73470	1P Jack (Ext. Speaker, Left)	1	C110	CD4 7 6100 0001V	Electrolytic 47μF 10V	1
J6	4 2359 73470	1P Jack (Ext. Speaker, Right)	1	C111	CM2 7 3500 K00SV	Mylar 0.027μF 50V ±10%	1
L101	4 2729 70480	Coil (33mH)	1	C112	CD4 7 5100 0000V	Electrolytic 4.7μF 10V	1
L102	4 2559 70031	Coil (33mH)	1	C113	CD1 0 5100 0000V	Electrolytic 1μF 10V	1
L103	4 2729 70500	Inductor (10mH)	1	C114	CM2 2 2500 K00SV	Mylar 0.0022μF 50V ±10%	1
L104	4 2729 70500	Inductor (10mH)	1	C115	CC3 9 1500 KE00C	Ceramic 390pF 50V ±10%	1
L201	4 2729 70480	Coil (33mH)	1	C116	CD4 7 6100 0001V	Electrolytic 47μF 10V	1
L202	4 2559 70031	Coil (33mH)	1	C117	CM2 7 3500 K00SV	Mylar 0.027μF 50V ±10%	1
L203	4 2729 70500	Inductor (10mH)	1	C118	CD4 7 5100 0000V	Electrolytic 4.7μF 10V	1
L204	4 2729 70500	Inductor (10mH)	1	C119	CC1 0 2500 KE00C	Ceramic 0.001μF 50V ±10%	1
L301	4 2539 70301	Micro Inductor (100μH)	1	C120	CC2 4 1500 JD00C	Ceramic 240pF 50V ±5%	1
L302	4 2539 70301	Micro Inductor (100μH)	1	C121	CC4 7 1500 KE00C	Ceramic 470pF 50V ±10%	1
L303	4 2539 70301	Micro Inductor (100μH)	1	C122	CD4 7 4100 0000V	Electrolytic 0.47μF 10V	1
T301	4 2589 71820	OSC Trans (Compact)	1	C123	CD2 2 5100 0000V	Electrolytic 2.2μF 10V	1
T302	4 2589 71850	OSC Trans (Micro)	1	C124	CC2 2 1500 KE00C	Ceramic 220pF 50V ±10%	1
P101	4 2229 72971	Potentiometer (B-100kΩ)	1	C125	CI4 7 2250 KF00C	Boundary 0.0047μF 25V ±10%	1
P102	4 2229 72971	Potentiometer (B-100kΩ)	1	C126	CD1 0 5100 0000V	Electrolytic 1μF 10V	1
P201	4 2229 72971	Potentiometer (B-100kΩ)	1	C127	CD1 0 5100 0000V	Electrolytic 1μF 10V	1
P202	4 2229 72971	Potentiometer (B-100kΩ)	1	C128	CM1 5 3500 K00SV	Mylar 0.015μF 50V ±10%	1
D101	202 5 9110 18820	Diode, 1S 188	1	C132	CC1 0 2500 KE00C	Ceramic 0.001μF 50V ±10%	1
D102	4 2029 71440	Diode, 1SS95	1	C133	CD4 7 5100 0000V	Electrolytic 4.7μF 10V	1
D201	202 5 9110 18820	Diode, 1S 188	1	C134	CD4 7 6100 0001V	Electrolytic 47μF 10V	1
D202	4 2029 71440	Diode, 1SS95	1	C135	CD1 0 7100 0001V	Electrolytic 100μF 10V	1
D301	202 5 2470 13540	Diode, DS135	1	C136	CM1 5 4500 K00SV	Mylar 0.15μF 50V ±10%	1
D306	202 5 3210 06810	Diode, GZA 6.8L	1	C137	CD2 2 8100 0001V	Electrolytic 2200μF 10V	1
D308	4 2029 71440	Diode, 1SS95	1	C138	CD1 0 5100 0000V	Electrolytic 1μF 10V	1
Q101	203 5 5100 53660	Transistor, 2SC 536	1	C139	CD1 0 5100 0000V	Electrolytic 1μF 10V	1
Q102	203 5 5100 53660	Transistor, 2SC 536	1	C140	CM2 2 3500 K00SV	Mylar 0.022μF 50V ±10%	1
Q103	203 5 5100 53660	Transistor, 2SC 536	1	C141	CC1 8 2500 KE00C	Ceramic 680pF 50V ±10%	1
Q104	4 2039 70430	Transistor, 2SC 1815	1	C142	CC6 8 1500 KE00C	Ceramic 330pF 50V ±10%	1
Q105	4 2039 70430	Transistor, 2SC 1815	1	C143	CC3 3 1500 KE00C	Ceramic 330pF 50V ±10%	1
Q106	203 5 4921 01275	Transistor, 2SD1012	1	C144	CC3 3 1500 KE00C	Ceramic 330pF 50V ±10%	1
Q201	203 5 5100 53660	Transistor, 2SC 536	1	C145	CD1 0 6100 0000V	Electrolytic 10μF 10V	1
Q202	203 5 5100 53660	Transistor, 2SC 536	1	C146	CD1 0 5100 0000V	Electrolytic 1μF 10V	1

# P.C.BOARD PARTS LIST (Continued)

Ref. No.	Parts No.	Description	Q'ty	Ref. No.	Parts No.	Description	Q'ty
C147	CC1 5 2500 KE00C	Ceramic	0.0015μF 50V ±10%	1	C310	CD1 0 5100 0000V	Electrolytic 1μF 10V 1
C148	CC3 3 2500 KE00C	Ceramic	0.0033μF 50V ±10%	1	C311	CC3 3 2500 KE00C	Ceramic 0.0033μF 50V ±10%
C149	CC3 3 2500 KE00C	Ceramic	0.0033μF 50V ±10%	1	C312	CD2 2 7100 0001V	Electrolytic 220μF 10V 1
C150	CC3 3 1500 KE00C	Ceramic	330pF 50V ±10%	1	C313	CD2 2 6100 0001V	Electrolytic 22μF 10V 1
C152	CM4 7 3500 K00SV	Mylar	0.047μF 50V ±10%	1	C314	CD2 2 7100 0001V	Electrolytic 220μF 10V 1
C154	CC1 2 2500 KE00C	Ceramic	0.0012μF 50V ±10%	1	C315	CD4 7 7100 0001V	Electrolytic 470μF 10V 1
C201	CD1 0 4500 0002V	Electrolytic	0.1μF 50V 1		C316	CD4 7 5100 0000V	Electrolytic 4.7μF 10V 1
C202	CD1 0 5100 0000V	Electrolytic	1μF 10V 1		C317	CD4 7 5100 0000V	Electrolytic 4.7μF 10V 1
C203	CD4 7 6100 0001V	Electrolytic	47μF 10V 1		C318	CD1 0 7160 0001V	Electrolytic 100μF 16V 1
C204	CC3 9 1500 KE00C	Ceramic	390pF 50V ±10%	1	C319	CD1 0 8100 0001V	Electrolytic 1000μF 10V 1
C205	CC2 2 2500 KE00C	Ceramic	0.0022μF 50V ±10%	1	C320	CD4 7 7100 0001V	Electrolytic 470μF 10V 1
C206	CD4 7 5100 0000V	Electrolytic	4.7μF 10V 1		C321	CD3 3 7160 0001V	Electrolytic 330μF 16V 1
C207	CD1 0 5100 0000V	Electrolytic	1μF 10V 1		C322	CD1 0 7100 0001V	Electrolytic 100μF 10V 1
C208	CC1 0 2500 KE00C	Ceramic	0.001μF 50V ±10%	1	C323	CD1 0 7100 0001V	Electrolytic 100μF 10V 1
C209	CC3 9 1500 KE00C	Ceramic	390pF 50V ±10%	1	C325	CD1 0 7100 0000V	Electrolytic 100μF 10V 1
C210	CD4 7 6100 0001V	Electrolytic	47μF 10V 1		C326	CD1 0 7100 0000V	Electrolytic 100μF 10V 1
C211	CM2 7 3500 K00SV	Mylar	0.027μF 50V ±10%	1	C327	CD3 3 8160 0001V	Electrolytic 3300μF 16V 1
C212	CD4 7 5100 0000V	Electrolytic	4.7μF 10V 1		C330	CP1 2 3101 J000V	Polypropylen 0.012μF 100V ±5%
C213	CD1 0 5100 0000V	Electrolytic	1μF 10V 1		C331	CM6 8 3500 K00SV	Mylar 0.068μF 50V ±10%
C214	CM2 2 2500 K00SV	Mylar	0.0022μF 50V ±10%	1	C332	CD1 0 6100 0000V	Electrolytic 10μF 10V 1
C215	CC3 9 1500 KE00C	Ceramic	390pF 50V ±10%	1	C333	CM3 3 2500 K00SV	Mylar 0.0033μF 50V ±10%
C216	CD4 7 6100 0001V	Electrolytic	47μF 10V 1		C334	CM4 7 2500 K00SV	Mylar 0.0047μF 50V ±10%
C217	CM2 7 3500 K00SV	Mylar	0.027μF 50V ±10%	1	C335	CM3 3 2500 K00SV	Mylar 0.0033μF 50V ±10%
C218	CD4 7 5100 0000V	Electrolytic	4.7μF 10V 1		C338	CP5 6 2101 J000V	Polypropylen 0.0056μF 100V ±5%
C219	CC1 0 2500 KE00C	Ceramic	0.001μF 50V ±10%	1	C339	CM4 7 3500 K00SV	Mylar 0.047μF 50V ±10%
C220	CC2 4 1500 J000C	Ceramic	240pF 50V ±5%	1	C340	CM6 8 2500 K00SV	Mylar 0.0068μF 50V ±10%
C221	CC4 7 1500 KE00C	Ceramic	470pF 50V ±10%	1	C341	CM6 8 2500 K00SV	Mylar 0.0068μF 50V ±10%
C222	CD4 7 4100 0000V	Electrolytic	0.47μF 10V 1		C342	CM1 5 3500 K00SV	Mylar 0.015μF 50V ±10%
C223	CD2 2 5100 0000V	Electrolytic	2.2μF 10V 1		C343	CD3 3 7100 0001V	Electrolytic 330μF 10V 1
C224	CC2 2 1500 KE00C	Ceramic	220pF 50V ±10%	1	C344	CC3 3 1500 KE00C	Ceramic 330pF 50V ±10%
C225	CI4 7 2250 KF00C	Boundary	0.0047μF 25V ±10%	1	C346	CC2 2 3500 ZG00C	Ceramic 0.022μF 50V +80,-20%
C226	CD1 0 5100 0000V	Electrolytic	1μF 10V 1		C347	CD1 0 6100 0000V	Electrolytic 10μF 10V 1
C227	CD1 0 5100 0000V	Electrolytic	1μF 10V 1		R101	RP1 0 2121 JH000	Pretty Carbon 1kΩ 1/8W ±5%
C228	CM1 5 3500 K00SV	Mylar	0.015μF 50V ±10%	1	R102	RP4 7 2121 JH000	Pretty Carbon 4.7kΩ 1/8W ±5%
C232	CC1 0 2500 KE00C	Ceramic	0.001μF 50V ±10%	1	R103	RP3 3 2121 JH000	Pretty Carbon 3.3kΩ 1/8W ±5%
C233	CD4 7 5100 0000V	Electrolytic	4.7μF 10V 1		R104	RP1 5 2121 JH000	Pretty Carbon 1.5kΩ 1/8W ±5%
C234	CD4 7 6100 0001V	Electrolytic	47μF 10V 1		R105	RP6 8 3121 JH000	Pretty Carbon 68kΩ 1/8W ±5%
C235	CD1 0 7100 0001V	Electrolytic	100μF 10V 1		R106	RP4 7 2121 JH000	Pretty Carbon 4.7kΩ 1/8W ±5%
C236	CM1 5 4500 K00SV	Mylar	0.15μF 50V ±10%	1	R107	RP1 5 2121 JH000	Pretty Carbon 1.5kΩ 1/8W ±5%
C237	CD2 2 8100 0001V	Electrolytic	2200μF 10V 1		R108	RP8 2 2121 JH000	Pretty Carbon 8.2kΩ 1/8W ±5%
C238	CD1 0 5100 0000V	Electrolytic	1μF 10V 1		R109	RP8 2 2121 JH000	Pretty Carbon 8.2kΩ 1/8W ±5%
C239	CD1 0 5100 0000V	Electrolytic	1μF 10V 1		R110	RP3 9 2121 JH000	Pretty Carbon 3.9kΩ 1/8W ±5%
C240	CM2 2 3500 K00SV	Mylar	0.022μF 50V ±10%	1	R111	RP5 6 2121 JH000	Pretty Carbon 5.6kΩ 1/8W ±5%
C241	CC1 8 2500 KE00C	Ceramic	0.0018μF 50V ±10%	1	R112	RP1 0 0121 JH000	Pretty Carbon 10Ω 1/8W ±5%
C242	CC6 8 1500 KE00C	Ceramic	680pF 50V ±10%	1	R113	RP5 6 0121 JH000	Pretty Carbon 56Ω 1/8W ±5%
C243	CC3 3 1500 KE00C	Ceramic	330pF 50V ±10%	1	R114	RP6 8 0121 JH000	Pretty Carbon 68Ω 1/8W ±5%
C244	CC3 3 1500 KE00C	Ceramic	330pF 50V ±10%	1	R115	RP8 2 0121 JH000	Pretty Carbon 82Ω 1/8W ±5%
C245	CD1 0 6100 0000V	Electrolytic	10μF 10V 1		R116	RP2 7 2121 JH000	Pretty Carbon 2.7kΩ 1/8W ±5%
C246	CD1 0 5100 0000V	Electrolytic	1μF 10V 1		R117	RP1 8 2121 JH000	Pretty Carbon 1.8kΩ 1/8W ±5%
C247	CC1 5 2500 KE00C	Ceramic	0.0015μF 50V ±10%	1	R118	RP1 0 4121 JH000	Pretty Carbon 100kΩ 1/8W ±5%
C248	CC3 3 2500 KE00C	Ceramic	0.0033μF 50V ±10%	1	R119	RP6 8 1121 JH000	Pretty Carbon 680Ω 1/8W ±5%
C249	CC3 3 2500 KE00C	Ceramic	0.0033μF 50V ±10%	1	R120	RP4 7 2121 JH000	Pretty Carbon 4.7kΩ 1/8W ±5%
C250	CC3 3 1500 KE00C	Ceramic	330pF 50V ±10%	1	R121	RP2 7 2121 JH000	Pretty Carbon 2.7kΩ 1/8W ±5%
C252	CM4 7 3500 K00SV	Mylar	0.047μF 50V ±10%	1	R122	RP1 0 2121 JH000	Pretty Carbon 1kΩ 1/8W ±5%
C254	CC1 2 2500 KE00C	Ceramic	0.0012μF 50V ±10%	1	R123	RP1 0 0121 JH000	Pretty Carbon 10Ω 1/8W ±5%
C301	CD1 0 7100 0001V	Electrolytic	100μF 10V 1		R124	RP3 3 0121 JH000	Pretty Carbon 33Ω 1/8W ±5%
C302	CD4 7 7100 0001V	Electrolytic	470μF 10V 1		R125	RP3 9 0121 JH000	Pretty Carbon 39Ω 1/8W ±5%
C303	CD4 7 7100 0001V	Electrolytic	470μF 10V 1		R126	RP4 7 0121 JH000	Pretty Carbon 47Ω 1/8W ±5%
C304	CD4 7 7100 0001V	Electrolytic	470μF 10V 1		R127	RP4 7 2121 JH000	Pretty Carbon 4.7kΩ 1/8W ±5%
C305	CD4 7 4100 0000V	Electrolytic	0.47μF 10V 1		R128	RP2 7 2121 JH000	Pretty Carbon 2.7kΩ 1/8W ±5%
C306	CC4 7 1500 KE00C	Ceramic	470pF 50V ±10%	1	R129	RP1 0 4121 JH000	Pretty Carbon 100kΩ 1/8W ±5%
C307	CD1 0 5100 0000V	Electrolytic	1μF 10V 1		R130	RP6 8 1121 JH000	Pretty Carbon 680Ω 1/8W ±5%
C308	CD1 0 5100 0000V	Electrolytic	1μF 10V 1		R131	RP4 7 2121 JH000	Pretty Carbon 4.7kΩ 1/8W ±5%
C309	CC4 7 1500 KE00C	Ceramic	470pF 50V ±10%	1	R132	RP2 7 2121 JH000	Pretty Carbon 2.7kΩ 1/8W ±5%

# P.C.BOARD PARTS LIST (Continued)

Ref. No.	Parts No.	Description	Q'ty	Ref. No.	Parts No.	Description	Q'ty
R133	RP6 8 3121 JH000	Pretty Carbon 68kΩ 1/8W ±5%	1	R231	RP4 7 2121 JH000	Pretty Carbon 4.7kΩ 1/8W ±5%	1
R134	RP2 2 2121 JH000	Pretty Carbon 2.2kΩ 1/8W ±5%	1	R232	RP2 7 2121 JH000	Pretty Carbon 2.7kΩ 1/8W ±5%	1
R135	RP1 2 3121 JH000	Pretty Carbon 12kΩ 1/8W ±5%	1	R233	RP6 8 3121 JH000	Pretty Carbon 68kΩ 1/8W ±5%	1
R136	RP4 7 2121 JH000	Pretty Carbon 4.7kΩ 1/8W ±5%	1	R234	RP2 2 2121 JH000	Pretty Carbon 2.2kΩ 1/8W ±5%	1
R137	RP4 7 3121 JH000	Pretty Carbon 47kΩ 1/8W ±5%	1	R235	RP1 2 3121 JH000	Pretty Carbon 12kΩ 1/8W ±5%	1
R138	RP1 0 1121 JH000	Pretty Carbon 100Ω 1/8W ±5%	1	R236	RP4 7 2121 JH000	Pretty Carbon 4.7kΩ 1/8W ±5%	1
R139	RP1 5 4121 JH000	Pretty Carbon 150kΩ 1/8W ±5%	1	R237	RP4 7 3121 JH000	Pretty Carbon 47kΩ 1/8W ±5%	1
R140	RP3 3 1121 JH000	Pretty Carbon 330Ω 1/8W ±5%	1	R238	RP1 0 1121 JH000	Pretty Carbon 100Ω 1/8W ±5%	1
R141	RP3 9 2121 JH000	Pretty Carbon 3.9kΩ 1/8W ±5%	1	R239	RP1 5 4121 JH000	Pretty Carbon 150kΩ 1/8W ±5%	1
R142	RP1 5 4121 JH000	Pretty Carbon 150kΩ 1/8W ±5%	1	R240	RP3 3 1121 JH000	Pretty Carbon 330Ω 1/8W ±5%	1
R143	RP1 0 2121 JH000	Pretty Carbon 1kΩ 1/8W ±5%	1	R241	RP3 9 2121 JH000	Pretty Carbon 3.9kΩ 1/8W ±5%	1
R144	RP1 0 2121 JH000	Pretty Carbon 1kΩ 1/8W ±5%	1	R242	RP1 5 4121 JH000	Pretty Carbon 150kΩ 1/8W ±5%	1
R145	RP4 7 1121 JH000	Pretty Carbon 470Ω 1/8W ±5%	1	R243	RP1 0 2121 JH000	Pretty Carbon 1kΩ 1/8W ±5%	1
R146	RP2 2 2121 JH000	Pretty Carbon 2.2kΩ 1/8W ±5%	1	R244	RP1 0 2121 JH000	Pretty Carbon 1kΩ 1/8W ±5%	1
R147	RP1 5 2121 JH000	Pretty Carbon 1.5kΩ 1/8W ±5%	1	R245	RP4 7 1121 JH000	Pretty Carbon 470Ω 1/8W ±5%	1
R148	RP3 9 4121 JH000	Pretty Carbon 390kΩ 1/8W ±5%	1	R246	RP2 2 2121 JH000	Pretty Carbon 2.2kΩ 1/8W ±5%	1
R149	RP4 7 1121 JH000	Pretty Carbon 470Ω 1/8W ±5%	1	R247	RP1 5 2121 JH000	Pretty Carbon 1.5kΩ 1/8W ±5%	1
R150	RP1 8 2121 JH000	Pretty Carbon 1.8kΩ 1/8W ±5%	1	R248	RP3 9 4121 JH000	Pretty Carbon 390kΩ 1/8W ±5%	1
R151	RP2 2 3121 JH000	Pretty Carbon 22kΩ 1/8W ±5%	1	R249	RP4 7 1121 JH000	Pretty Carbon 470Ω 1/8W ±5%	1
R153	RP6 8 0121 JH000	Pretty Carbon 68Ω 1/8W ±5%	1	R250	RP1 8 2121 JH000	Pretty Carbon 1.8kΩ 1/8W ±5%	1
R155	RP4 7 2121 JH000	Pretty Carbon 4.7kΩ 1/8W ±5%	1	R251	RP2 2 3121 JH000	Pretty Carbon 22kΩ 1/8W ±5%	1
R156	RD1 8 1251 JS000	Carbon 180Ω 1/4W ±5%	1	R253	RP6 8 0121 JH000	Pretty Carbon 68Ω 1/8W ±5%	1
R157	RP2 7 3121 JH000	Pretty Carbon 27kΩ 1/8W ±5%	1	R255	RP4 7 2121 JH000	Pretty Carbon 4.7kΩ 1/8W ±5%	1
R158	RP3 3 3121 JH000	Pretty Carbon 33kΩ 1/8W ±5%	1	R256	RD1 8 1251 JS000	Carbon 180Ω 1/4W ±5%	1
R159	RP1 0 2121 JH000	Pretty Carbon 1kΩ 1/8W ±5%	1	R257	RP2 7 3121 JH000	Pretty Carbon 27kΩ 1/8W ±5%	1
R160	RP4 7 1121 JH000	Pretty Carbon 470Ω 1/8W ±5%	1	R258	RP3 3 3121 JH000	Pretty Carbon 33kΩ 1/8W ±5%	1
R161	RP3 9 4121 JH000	Pretty Carbon 390kΩ 1/8W ±5%	1	R259	RP1 0 2121 JH000	Pretty Carbon 1kΩ 1/8W ±5%	1
R162	RP1 5 2121 JH000	Pretty Carbon 1.5kΩ 1/8W ±5%	1	R260	RP4 7 1121 JH000	Pretty Carbon 470Ω 1/8W ±5%	1
R163	RP3 9 1121 JH000	Pretty Carbon 390Ω 1/8W ±5%	1	R261	RP3 9 4121 JH000	Pretty Carbon 390kΩ 1/8W ±5%	1
R164	RP1 8 2121 JH000	Pretty Carbon 1.8kΩ 1/8W ±5%	1	R262	RP1 5 2121 JH000	Pretty Carbon 1.5kΩ 1/8W ±5%	1
R165	RP6 8 2121 JH000	Pretty Carbon 6.8kΩ 1/8W ±5%	1	R263	RP3 9 1121 JH000	Pretty Carbon 390Ω 1/8W ±5%	1
R166	RP3 9 2121 JH000	Pretty Carbon 3.9kΩ 1/8W ±5%	1	R264	RP1 8 2121 JH000	Pretty Carbon 1.8kΩ 1/8W ±5%	1
R167	RP6 8 1121 JH000	Pretty Carbon 680Ω 1/8W ±5%	1	R265	RP6 8 2121 JH000	Pretty Carbon 6.8kΩ 1/8W ±5%	1
R168	RP4 7 3121 JH000	Pretty Carbon 47kΩ 1/8W ±5%	1	R266	RP3 9 2121 JH000	Pretty Carbon 3.9kΩ 1/8W ±5%	1
R201	RP1 0 2121 JH000	Pretty Carbon 1kΩ 1/8W ±5%	1	R267	RP6 8 1121 JH000	Pretty Carbon 680Ω 1/8W ±5%	1
R202	RP4 7 2121 JH000	Pretty Carbon 4.7kΩ 1/8W ±5%	1	R268	RP4 7 3121 JH000	Pretty Carbon 47kΩ 1/8W ±5%	1
R203	RP3 3 2121 JH000	Pretty Carbon 3.3kΩ 1/8W ±5%	1	R303	RP2 2 2121 JH000	Pretty Carbon 2.2kΩ 1/8W ±5%	1
R204	RP1 5 2121 JH000	Pretty Carbon 1.5kΩ 1/8W ±5%	1	R304	RP3 9 1121 JH000	Pretty Carbon 390Ω 1/8W ±5%	1
R205	RP6 8 3121 JH000	Pretty Carbon 68kΩ 1/8W ±5%	1	R305	RP4 7 1121 JH000	Pretty Carbon 470Ω 1/8W ±5%	1
R206	RP4 7 2121 JH000	Pretty Carbon 4.7kΩ 1/8W ±5%	1	R306	RP4 7 1121 JH000	Pretty Carbon 470Ω 1/8W ±5%	1
R207	RP1 5 2121 JH000	Pretty Carbon 1.5kΩ 1/8W ±5%	1	R307	RP6 8 2121 JH000	Pretty Carbon 6.8kΩ 1/8W ±5%	1
R208	RP8 2 2121 JH000	Pretty Carbon 8.2kΩ 1/8W ±5%	1	R308	RP6 8 2121 JH000	Pretty Carbon 6.8kΩ 1/8W ±5%	1
R209	RP8 2 2121 JH000	Pretty Carbon 8.2kΩ 1/8W ±5%	1	R309	RP3 3 2121 JH000	Pretty Carbon 3.3kΩ 1/8W ±5%	1
R210	RP3 9 2121 JH000	Pretty Carbon 3.9kΩ 1/8W ±5%	1	R310	RP1 0 5121 JH000	Pretty Carbon 1MΩ 1/8W ±5%	1
R211	RP5 6 2121 JH000	Pretty Carbon 5.6kΩ 1/8W ±5%	1	R311	RP1 0 3121 JH000	Pretty Carbon 10kΩ 1/8W ±5%	1
R212	RP1 0 0121 JH000	Pretty Carbon 10Ω 1/8W ±5%	1	R312	RP3 9 1121 JH000	Pretty Carbon 390Ω 1/8W ±5%	1
R213	RP5 6 0121 JH000	Pretty Carbon 56Ω 1/8W ±5%	1	R313	RP3 3 2121 JH000	Pretty Carbon 3.3kΩ 1/8W ±5%	1
R214	RP6 8 0121 JH000	Pretty Carbon 68Ω 1/8W ±5%	1	R314	RP3 9 4121 JH000	Pretty Carbon 390kΩ 1/8W ±5%	1
R215	RP8 2 0121 JH000	Pretty Carbon 82Ω 1/8W ±5%	1	R315	RP2 2 1121 JH000	Pretty Carbon 220Ω 1/8W ±5%	1
R216	RP2 7 2121 JH000	Pretty Carbon 2.7kΩ 1/8W ±5%	1	R316	RP4 7 1121 JH000	Pretty Carbon 470Ω 1/8W ±5%	1
R217	RP1 8 2121 JH000	Pretty Carbon 1.8kΩ 1/8W ±5%	1	R317	RP1 5 3121 JH000	Pretty Carbon 15kΩ 1/8W ±5%	1
R218	RP1 0 4121 JH000	Pretty Carbon 100kΩ 1/8W ±5%	1	R318	RP1 5 3121 JH000	Pretty Carbon 15kΩ 1/8W ±5%	1
R219	RP6 8 1121 JH000	Pretty Carbon 680Ω 1/8W ±5%	1	R319	RP8 2 0121 JH000	Pretty Carbon 82Ω 1/8W ±5%	1
R220	RP4 7 2121 JH000	Pretty Carbon 4.7kΩ 1/8W ±5%	1	R320	RP3 9 1121 JH000	Pretty Carbon 390Ω 1/8W ±5%	1
R221	RP2 7 2121 JH000	Pretty Carbon 2.7kΩ 1/8W ±5%	1	R321	RP3 9 1121 JH000	Pretty Carbon 390Ω 1/8W ±5%	1
R222	RP1 0 2121 JH000	Pretty Carbon 1kΩ 1/8W ±5%	1	R322	RD5 6 0251 JS000	Carbon 56Ω 1/4W ±5%	1
R223	RP1 0 0121 JH000	Pretty Carbon 10Ω 1/8W ±5%	1	R323	RD3 9 0251 JS000	Carbon 39Ω 1/4W ±5%	1
R224	RP3 3 0121 JH000	Pretty Carbon 33Ω 1/8W ±5%	1	R324	RP8 2 1121 JH000	Pretty Carbon 820Ω 1/8W ±5%	1
R225	RP3 9 0121 JH000	Pretty Carbon 39Ω 1/8W ±5%	1	R325	RP8 2 3121 JH000	Pretty Carbon 82kΩ 1/8W ±5%	1
R226	RP4 7 0121 JH000	Pretty Carbon 47Ω 1/8W ±5%	1	R326	RP8 2 3121 JH000	Pretty Carbon 82kΩ 1/8W ±5%	1
R227	RP4 7 2121 JH000	Pretty Carbon 4.7kΩ 1/8W ±5%	1	R327	RP8 2 2121 JH000	Pretty Carbon 8.2kΩ 1/8W ±5%	1
R228	RP2 7 2121 JH000	Pretty Carbon 2.7kΩ 1/8W ±5%	1	R328	RD3 3 5251 JN000	Carbon 3.3MΩ 1/4W ±5%	1
R229	RP1 0 4121 JH000	Pretty Carbon 100kΩ 1/8W ±5%	1	R330	RP5 6 A121 JH000	Pretty Carbon 5.6Ω 1/8W ±5%	1
R230	RP6 8 1121 JH000	Pretty Carbon 680Ω 1/8W ±5%	1	R332	RP4 7 1121 JH000	Pretty Carbon 470Ω 1/8W ±5%	1

# P.C.BOARD PARTS LIST (Continued)

Ref. No.	Parts No.	Description	Q'ty	Ref. No.	Parts No.	Description	Q'ty
R333	RP1 8 1121 JH000	Pretty Carbon 180Ω 1/8W ±5%	1	Q1	4 2039 70380	Transistor, 2SC1674	1
R334	RP5 6 A121 JH000	Pretty Carbon 5.6Ω 1/8W ±5%	1	Q2	4 2039 70460	Transistor, 2SC1675	1
R335	RD1 2 1251 JS000	Carbon 120Ω 1/4W ±5%	1	Q3	4 2039 70460	Transistor, 2SC1675	1
R336	RP3 3 A121 JH000	Pretty Carbon 3.3Ω 1/8W ±5%	1	Q4	4 2039 70100	Transistor, 2SC945	1
R337	RP1 2 3121 JH000	Pretty Carbon 12kΩ 1/8W ±5%	1	Q5	4 2039 70100	Transistor, 2SC945	1
R338	RP1 2 3121 JH000	Pretty Carbon 12kΩ 1/8W ±5%	1	Q6	4 2039 70460	Transistor, 2SC1675	1
R342	RP1 0 2121 JH000	Pretty Carbon 1kΩ 1/8W ±5%	1	IC1	4 2069 70232	IC, μPC1018E	1
R343	RP1 0 4121 JH000	Pretty Carbon 100kΩ 1/8W ±5%	1	IC2	4 2069 70510	IC, μPC1197C	1
R344	RP1 0 2121 JH000	Pretty Carbon 1kΩ 1/8W ±5%	1	C1	CI2 2 3160 XG00R	Boundary 0.022μF 16V +40,-20%	1
R345	RP1 8 3121 JH000	Pretty Carbon 18kΩ 1/8W ±5%	1	C2	CI1 0 3250 MF00R	Boundary 0.01μF 25V ±20%	1
R346	RP1 8 3121 JH000	Pretty Carbon 18kΩ 1/8W ±5%	1	C3	CC2 0 0500 JD00C	Ceramic 20pF 50V ±5%	1
R347	RP6 8 A121 JH000	Pretty Carbon 6.8Ω 1/8W ±5%	1	C4	CC3 0 A500 CCH0C	Ceramic 3pF 50V ±0.2pF	1
R348	RP6 8 A121 JH000	Pretty Carbon 6.8Ω 1/8W ±5%	1	C5	CC2 0 A500 CCH0C	Ceramic 2pF 50V ±0.2pF	1
R349	RP3 3 A121 JH000	Pretty Carbon 3.3Ω 1/8W ±5%	1	C7	CI2 2 3160 XG00R	Boundary 0.022μF 16V +40,-20%	1
R350	RP1 0 4121 JH000	Pretty Carbon 100kΩ 1/8W ±5%	1	C8	CI2 2 3160 XG00R	Boundary 0.022μF 16V +40,-20%	1
R351	RP1 0 4121 JH000	Pretty Carbon 100kΩ 1/8W ±5%	1	C9	CC1 8 0500 JCH0C	Ceramic 18pF 50V ±5%	1
<b>RADIO TUNER P.C.B. ASSY</b>				C10	CC1 5 0500 JCH0C	Ceramic 15pF 50V ±5%	1
PCB2	4 1259 71670	Radio Tuner P.C.B. Assy	1	C11	CC1 5 0500 JCH0C	Ceramic 15pF 50V ±5%	1
	4 2369 70740	RT Pin	7	C12	CC1 0 0500 JCH0C	Ceramic 10pF 50V ±5%	1
101	3 1302 60411	Screw, Pan Hd. +M2.6x4	2	C13	CI1 0 3250 MF00R	Boundary 0.01μF 25V ±20%	1
141	2 3229 34800	Shield Plate, Tuner	1	C14	CI2 2 3160 XG00R	Boundary 0.022μF 16V +40,-20%	1
141	2 3229 35100	Shield Plate, Tuner	1	C15	CC6 0 A500 CCH0C	Ceramic 6pF 50V ±0.2pF	1
141	2 4729 04700	Staple, 10mm	8	C16	CI2 2 3160 XG00R	Boundary 0.022μF 16V +40,-20%	1
141	2 4729 05000	Staple, 5mm	11	C18	CI2 2 3160 XG00R	Boundary 0.022μF 16V +40,-20%	1
CN1	4 2369 73380	Connector 5P	1	C19	CI2 2 3160 XG00R	Boundary 0.022μF 16V +40,-20%	1
S1	4 2319 75060	Rotary Switch (Band Select)	1	C20	CI2 2 3160 XG00R	Boundary 0.022μF 16V +40,-20%	1
P1	4 2229 73620	Potentiometer (B-10kΩ)	1	C21	CC2 2 1500 KE00C	Ceramic 220pF 50V ±10%	1
P2	4 2229 73610	Potentiometer (B-1kΩ)	1	C22	CC2 2 1500 KE00C	Ceramic 220pF 50V ±10%	1
PVC1	4 2249 70451	Variable Condenser	1	C23	CD4 7 5100 0000V	Electrolytic 4.7μF 10V	1
BF1	4 2539 70211	Bead Ferrite	1	C24	CB4 7 4100 0000V	None-polar 0.47μF 10V	1
L1	4 2599 70334	RF Coil	1	C25	CI2 2 3160 XG00R	Boundary 0.022μF 16V +40,-20%	1
L3	4 2589 71960	FM OSC Trans	1	C26	CD4 7 5100 0000V	Electrolytic 4.7μF 10V	1
L4	4 2579 71130	Bar Antenna	1	C27	CC1 5 0500 JD00C	Ceramic 15pF 50V ±5%	1
L5	4 2539 70870	Band Pass Filter	1	C28	CC7 0 A500 CD00C	Ceramic 7pF 50V ±0.2pF	1
T1	4 2569 70990	IFT, 10.7MHz	1	C29	CC2 2 0500 JD00C	Ceramic 22pF 50V ±5%	1
T2	4 2569 70321	IFT	1	C30	CC2 0 0500 JD00C	Ceramic 20pF 50V ±5%	1
T3	4 2569 70331	IFT	1	C31	CS3 1 2500 J010F	Polystyroul 0.0031μF 50V ±5%	1
T4	4 2579 70722	Antenna Coil	1	C32	CS3 6 1500 J010F	Polystyroul 360pF 50V ±5%	1
T5	4 2589 71400	OSC Trans	1	C33	CS2 0 1500 J010F	Polystyroul 200pF 50V ±5%	1
T6	4 2589 71410	OSC Trans	1	C34	CC1 0 0500 JD00C	Ceramic 10pF 50V ±5%	1
T7	4 2589 71420	OSC Trans	1	C35	CC1 2 0500 JD00C	Ceramic 12pF 50V ±5%	1
T8	4 2569 70950	IFT	1	C36	CC1 0 1500 JD00C	Ceramic 100pF 50V ±5%	1
T9	4 2569 70960	IFT	1	C37	CI2 2 3160 XG00R	Boundary 0.022μF 16V +40,-20%	1
T10	4 2569 71120	IFT, AM	1	C38	CI2 2 3160 XG00R	Boundary 0.022μF 16V +40,-20%	1
T11	4 2569 71280	IFT	1	C39	CI2 2 3160 XG00R	Boundary 0.022μF 16V +40,-20%	1
TC1	4 2249 70290	Trimmer Condenser	1	C40	CI1 0 3250 MF00R	Boundary 0.01μF 25V ±20%	1
TC2	4 2249 70350	Trimmer	1	C41	CD1 0 5100 0002V	Electrolytic 1μF 10V	1
TC3	4 2249 70290	Trimmer Condenser	1	C42	CI2 2 3160 XG00R	Boundary 0.022μF 16V +40,-20%	1
TC4	4 2249 70290	Trimmer Condenser	1	C43	CD2 2 6100 0000V	Electrolytic 22μF 10V	1
TC5	4 2249 70350	Trimmer	1	C44	CI2 2 3160 XG00R	Boundary 0.022μF 16V +40,-20%	1
CF1	4 2539 70880	Ceramic Filter	1	C45	CI2 2 3160 XG00R	Boundary 0.022μF 16V +40,-20%	1
CF2	4 2539 70880	Ceramic Filter	1	C46	CD2 2 6100 0000V	Electrolytic 22μF 10V	1
D1	202 5 2810 44210	Diode, DS 442	1	C47	CI2 2 3160 XG00R	Boundary 0.022μF 16V +40,-20%	1
D2	202 5 2810 44210	Diode, DS 442	1	C48	CD1 0 4500 0002V	Electrolytic 0.1μF 10V	1
D3	4 2029 70790	Diode, ITT410	1	C49	CD1 0 7100 0000V	Electrolytic 100μF 10V	1
D4	202 5 9110 18820	Diode, 1S 188	1	C50	CM47 3500 K00SV	Mylar 0.047μF 10V ±10%	1
D5	202 5 9110 18820	Diode, 1S 188	1	C51	CS4 7 1500 J010F	Polystyroul 470pF 10V ±5%	1
D6	202 5 9110 18820	Diode, 1S 188	1	C52	CA3 3 4100 X000V	Aluminum 0.33μF 10V +40,-20%	1
D7	4 2029 70430	Diode, WZ-061	1	C53	CD1 0 5100 0000V	Electrolytic 1μF 10V	1
D8	202 5 9110 18820	Diode, 1S 188	1	C54	CD2 2 5100 0000V	Electrolytic 2.2μF 10V	1
D9	202 5 2810 44210	Diode, DS 442	1	C55	CI1 5 3250 MF00R	Boundary 0.015μF 5V ±20%	1
D10	202 5 2810 44210	Diode, DS 442	1	C56	CI1 5 3250 MF00R	Boundary 0.015μF 5V ±20%	1
				C57	CD2 2 4500 0002V	Electrolytic 0.22μF 10V	1
				C58	CD2 2 4500 0002V	Electrolytic 0.22μF 10V	1

## P.C.BOARD PARTS LIST (Continued)

Ref. No.	Parts No.	Description	Q'ty	Ref. No.	Parts No.	Description	Q'ty		
C59	CM3 3 2500 K00SV	Mylar	0.0033μF 50V ±10%	1	R47	RD5 6 A251 JM000	Carbon	5.6Ω 1/4W ±5%	1
C60	CM3 3 2500 K00SV	Mylar	0.0033μF 50V ±10%	1	R48	RD1 0 4251 JM000	Carbon	100kΩ 1/4W ±5%	1
C61	CM3 3 2500 K00SV	Mylar	0.0033μF 50V ±10%	1	R49	RD1 0 1251 JM000	Carbon	100Ω 1/4W ±5%	1
C62	CM3 3 2500 K00SV	Mylar	0.0033μF 50V ±10%	1	R50	RD1 0 3251 JM000	Carbon	10kΩ 1/4W ±5%	1
C63	CD4 7 7100 0000V	Electrolytic	470μF 10V	1	R51	RP2 7 2121 JT000	Pretty Carbon	2.7kΩ 1/8W ±5%	1
C64	CI2 2 3160 XG00R	Boundary	0.022μF 16V +40,-20%	1	R52	RD3 3 2251 JM000	Carbon	3.3kΩ 1/4W ±5%	1
C65	CD1 0 7100 0000V	Electrolytic	100μF 10V	1	R53	RD2 2 4251 JM000	Carbon	220kΩ 1/4W ±5%	1
C66	CI2 2 3160 XG00R	Boundary	0.022μF 16V +40,-20%	1	R54	RD2 2 1251 JM000	Carbon	220Ω 1/4W ±5%	1
C67	CC1 0 1500 JD00C	Ceramic	100pF 50V ±5%	1	R55	RD1 0 3251 JM000	Carbon	10kΩ 1/4W ±5%	1
C68	CI2 2 3160 XG00R	Boundary	0.022μF 16V +40,-20%	1	R56	RD1 0 3251 JM000	Carbon	10kΩ 1/4W ±5%	1
C69	CI1 0 3250 MF00R	Boundary	0.01μF 25V ±20%	1	R57	RP1 0 1121 JT000	Pretty Carbon	100Ω 1/8W ±5%	1
C70	CD1 0 6100 0000V	Electrolytic	10μF 10V	1	R58	RP2 2 2121 JT000	Pretty Carbon	2.2kΩ 1/8W ±5%	1
C71	CC1 0 1500 KD00C	Ceramic	100pF 50V ±10%	1	R59	RP4 7 4121 JT000	Pretty Carbon	470kΩ 1/8W ±5%	1
C72	CI2 2 3160 XG00R	Boundary	0.022μF 16V +40,-20%	1	R60	RP2 2 2121 JT000	Pretty Carbon	2.2kΩ 1/8W ±5%	1
C73	CC4 7 1500 KE00C	Ceramic	470pF 50V ±10%	1	R61	RP1 0 2121 JT000	Pretty Carbon	1kΩ 1/8W ±5%	1
C74	CC5 0 A500 CD00C	Ceramic	5pF 50V ±0.2pF	1	R62	RP4 7 2121 JT000	Pretty Carbon	4.7kΩ 1/8W ±5%	1
C75	CC2 0 0500 JD00C	Ceramic	20pF 50V ±5%	1					
C76	CI2 2 3160 XG00R	Boundary	0.022μF 16V +40,-20%	1					
C77	CI2 2 3160 XG00R	Boundary	0.022μF 16V +40,-20%	1					
C78	CC1 0 2500 KE00C	Ceramic	0.001μF 50V ±10%	1					
R1	RD1 0 4251 JM000	Carbon	100kΩ 1/4W ±5%	1					
R2	RD1 0 4251 JM000	Carbon	100kΩ 1/4W ±5%	1					
R3	RD3 3 2251 JM000	Carbon	3.3kΩ 1/4W ±5%	1					
R4	RD4 7 1251 JM000	Carbon	470Ω 1/4W ±5%	1					
R5	RD1 0 1251 JM000	Carbon	100Ω 1/4W ±5%	1					
R6	RD1 0 4251 JM000	Carbon	100kΩ 1/4W ±5%	1					
R7	RD1 0 4251 JM000	Carbon	100kΩ 1/4W ±5%	1					
R8	RD6 8 2251 JM000	Carbon	6.8kΩ 1/4W ±5%	1					
R9	RD4 7 0251 JM000	Carbon	47Ω 1/4W ±5%	1					
R10	RD1 0 4251 JM000	Carbon	100kΩ 1/4W ±5%	1					
R11	RD2 2 1251 JM000	Carbon	220Ω 1/4W ±5%	1					
R12	RD8 2 2251 JM000	Carbon	8.2kΩ 1/4W ±5%	1					
R13	RD2 2 1251 JM000	Carbon	220Ω 1/4W ±5%	1					
R14	RD3 3 4251 JM000	Carbon	330kΩ 1/4W ±5%	1					
R16	RD4 7 0251 JM000	Carbon	47Ω 1/4W ±5%	1					
R17	RD4 7 0251 JM000	Carbon	47Ω 1/4W ±5%	1					
R19	RD1 0 2251 JM000	Carbon	1kΩ 1/4W ±5%	1					
R20	RD1 0 2251 JM000	Carbon	1kΩ 1/4W ±5%	1					
R21	RD4 7 2251 JM000	Carbon	4.7kΩ 1/4W ±5%	1					
R22	RD4 7 2251 JM000	Carbon	4.7kΩ 1/4W ±5%	1					
R23	RD5 6 3251 JM000	Carbon	56kΩ 1/4W ±5%	1					
R24	RD3 3 4251 JM000	Carbon	330kΩ 1/4W ±5%	1					
R25	RP4 7 0121 JT000	Pretty Carbon	47Ω 1/8W ±5%	1					
R26	RD5 6 A251 JM000	Carbon	5.6Ω 1/4W ±5%	1					
R27	RD3 3 0251 JM000	Carbon	33Ω 1/4W ±5%	1					
R28	RD4 7 3251 JM000	Carbon	47kΩ 1/4W ±5%	1					
R29	RD4 7 0251 JM000	Carbon	47Ω 1/4W ±5%	1					
R30	RD4 7 0251 JM000	Carbon	47Ω 1/4W ±5%	1					
R31	RD4 7 3251 JM000	Carbon	47kΩ 1/4W ±5%	1					
R32	RD1 0 3251 JM000	Carbon	10kΩ 1/4W ±5%	1					
R33	RD2 2 2251 JM000	Carbon	2.2kΩ 1/4W ±5%	1					
R34	RD4 7 2251 JM000	Carbon	4.7kΩ 1/4W ±5%	1					
R35	RD3 3 2251 JM000	Carbon	3.3kΩ 1/4W ±5%	1					
R36	RD1 8 3251 JM000	Carbon	18kΩ 1/4W ±5%	1					
R37	RD1 0 2251 JM000	Carbon	1kΩ 1/4W ±5%	1					
R38	RD3 3 2251 JM000	Carbon	3.3kΩ 1/4W ±5%	1					
R39	RD3 3 2251 JM000	Carbon	3.3kΩ 1/4W ±5%	1					
R40	RD1 8 1251 JM000	Carbon	180Ω 1/4W ±5%	1					
R41	RD4 7 2251 JM000	Carbon	4.7kΩ 1/4W ±5%	1					
R42	RD4 7 2251 JM000	Carbon	4.7kΩ 1/4W ±5%	1					
R43	RD4 7 2251 JM000	Carbon	4.7kΩ 1/4W ±5%	1					
R44	RD4 7 2251 JM000	Carbon	4.7kΩ 1/4W ±5%	1					
R45	RD5 6 A251 JM000	Carbon	5.6Ω 1/4W ±5%	1					
R46	RD4 7 1251 JM000	Carbon	470Ω 1/4W ±5%	1					

# P.C.BOARD PARTS LIST (Continued)

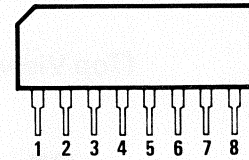
Ref. No.	Parts No.	Description	Q'ty	Ref. No.	Parts No.	Description	Q'ty
<b>INDICATOR P.C.B. ASSY</b>							
PCB6	4 5119 70740	Indicator P.C.B. Assy	1	C501	CD1 0 7160 0001V	Electrolytic 100μF 16V	1
	4 2269 35890	PCB, LED	1	C502	CD2 2 5100 0000V	Electrolytic 2.2μF 10V	1
141	2 2719 16700	LED Holder	1	C503	CD1 0 6160 0000V	Electrolytic 10μF 16V	1
141	2 1519 31100	Reflector	1	C504	CD3 3 7100 0001V	Electrolytic 330μF 10V	1
141	2 4729 04700	Staple, 10mm	1	C505	CD2 2 5500 0000V	Electrolytic 2.2μF 50V	1
CN3	4 2359 75202	Connector 10P Assy	1	C506	CD2 2 5500 0000V	Electrolytic 2.2μF 50V	1
D304	4 2029 71820	LED, SLR-34UR (Operation/Batt)	1	C507	CD2 2 5500 0000V	Electrolytic 2.2μF 50V	1
D305	4 2029 71840	LED, SLR-54UR (Compact, Operation)	1	C508	CD2 2 5500 0000V	Electrolytic 2.2μF 50V	1
D309	205 5 9040 44210	Diode, DS 442	1	C509	CD4 7 4100 0000V	Electrolytic 0.47μF 10V	1
D310	4 2029 71311	LED, LN5202P (LED Meter)	1	C510	CD4 7 4100 0000V	Electrolytic 0.47μF 10V	1
D311	4 2029 71830	LED, SLR-54GG (Micro, Operation)	1	C511	CD1 0 6160 0000V	Electrolytic 10μF 16V	1
D312	4 2029 71820	LED, SLR-34UR (Record Direction, Compact)	1	C512	CD4 7 5100 0000V	Electrolytic 4.7μF 10V	1
D313	4 2029 71820	LED, SLR-34UR (Record Direction, Micro)	1	R501	RD3 9 A251 JS000	Carbon 3.9Ω 1/4W ±5%	1
D314	4 2029 71820	LED, SLR-34UR (FM Stereo)	1	R502	RD9 1 A251 JS000	Carbon 9.1Ω 1/4W ±5%	1
IC306	206 5 2341 41610	IC, LB1416	1	R503	RP9 1 1121 JT000	Pretty Carbon 910Ω 1/8W ±5%	1
C349	CD1 0 7160 0001V	Electrolytic 100μF 16V	1	R504	RP3 3 1121 JT000	Pretty Carbon 330Ω 1/8W ±5%	1
C350	CD4 7 6160 0001V	Electrolytic 47μF 16V	1	R506	RP3 9 2121 JT000	Pretty Carbon 3.9kΩ 1/8W ±5%	1
C351	CD4 7 5100 0000V	Electrolytic 4.7μF 10V	1	R507	RP1 2 2121 JT000	Pretty Carbon 1.2kΩ 1/8W ±5%	1
C352	CD1 0 5100 0000V	Electrolytic 1μF 10V	1	R508	RP1 0 2121 JT000	Pretty Carbon 1kΩ 1/8W ±5%	1
R169	RP1 0 3121 JT000	Pretty Carbon 10kΩ 1/8W ±5%	1	R509	RD1 5 2251 JS000	Carbon 1.5kΩ 1/4W ±5%	1
R269	RP1 0 3121 JT000	Pretty Carbon 10kΩ 1/8W ±5%	1	R510	RP3 3 2121 JT000	Pretty Carbon 3.3kΩ 1/8W ±5%	1
R339	RD1 0 2251 JS000	Carbon 1kΩ 1/4W ±5%	1	R511	RP5 6 2121 JT000	Pretty Carbon 5.6kΩ 1/8W ±5%	1
R340	RD3 3 1251 JS000	Carbon 330Ω 1/4W ±5%	1	R512	RP1 0 3121 JT000	Pretty Carbon 10kΩ 1/8W ±5%	1
R341	RD6 8 1251 JS000	Carbon 680Ω 1/4W ±5%	1	R513	RP1 0 3121 JT000	Pretty Carbon 10kΩ 1/8W ±5%	1
R352	RP1 0 3121 JT000	Pretty Carbon 10kΩ 1/8W ±5%	1	R514	RP1 0 3121 JT000	Pretty Carbon 10kΩ 1/8W ±5%	1
R353	RP9 1 3121 JT000	Pretty Carbon 91kΩ 1/8W ±5%	1	R515	RP1 0 3121 JT000	Pretty Carbon 10kΩ 1/8W ±5%	1
R354	RP1 5 3121 JT000	Pretty Carbon 15kΩ 1/8W ±5%	1	R516	RP4 7 3121 JT000	Pretty Carbon 47kΩ 1/8W ±5%	1
R355	RD5 6 1251 JS000	Carbon 560Ω 1/4W ±5%	1	R517	RP8 2 3121 JT000	Pretty Carbon 82kΩ 1/8W ±5%	1
R356	RD5 6 1251 JS000	Carbon 560Ω 1/4W ±5%	1	R518	RP1 0 4121 JT000	Pretty Carbon 100kΩ 1/8W ±5%	1
R357	RD5 6 1251 JS000	Carbon 560Ω 1/4W ±5%	1	R519	RP2 2 2121 JT000	Pretty Carbon 2.2kΩ 1/8W ±5%	1
R358	RD5 6 1251 JS000	Carbon 560Ω 1/4W ±5%	1	R520	RP2 2 2121 JT000	Pretty Carbon 2.2kΩ 1/8W ±5%	1
R359	RD5 6 1251 JS000	Carbon 560Ω 1/4W ±5%	1	R521	RP4 7 2121 JT000	Pretty Carbon 4.7kΩ 1/8W ±5%	1
R360	RD2 2 1251 JS000	Carbon 220Ω 1/4W ±5%	1	R522	RP3 9 1121 JT000	Pretty Carbon 390Ω 1/8W ±5%	1
R361	RD8 2 1251 JS000	Carbon 820Ω 1/4W ±5%	1	R523	RP1 0 4121 JT000	Pretty Carbon 100kΩ 1/8W ±5%	1
<b>MOTOR GOVERNOR P.C.B. ASSY</b>				R524	RP8 2 2121 JT000	Pretty Carbon 8.2kΩ 1/8W ±5%	1
PCB7	4 2869 70581	Motor Governor P.C.B. Assy	1	R525	RP8 2 3121 JT000	Pretty Carbon 82kΩ 1/8W ±5%	1
	4 2269 35870	PCB, Governor	1	R526	RP8 2 3121 JT000	Pretty Carbon 82kΩ 1/8W ±5%	1
	4 2369 70740	RT Pin	2	R527	RP1 0 2121 JT000	Pretty Carbon 1kΩ 1/8W ±5%	1
141	2 4469 17200	Cushion	2	<b>BASE SWITCH P.C.B. ASSY</b>			
141	2 4729 05000	Staple, 5mm	3	PCB8	141 0 3659 01200	Base Switch P.C.B. Assy	1
S9	4 2319 73390	Slide Switch (Tape Speed)	1		4 2269 35910	PCB, Base Switch	1
P501	4 2229 73023	Potentiometer (B-3kΩ)	1	S11	4 2319 73610	Leaf Switch (FF/REW)	1
P502	4 2229 73022	Potentiometer (B-2kΩ)	1	<b>SWITCH/JACK P.C.B. ASSY</b>			
L501	4 2539 70301	Micro Inductor (100μH)	1	PCB9	4 1329 77371	Switch/Jack P.C.B. Assy	1
L502	4 2539 70911	Choke Coil (7μH)	1		4 2269 35900	PCB, Jack	1
L503	4 2539 70911	Choke Coil (7μH)	1	S7	4 2319 72640	Slide Switch (Beat Cancel, Compact)	1
TH501	204 5 9000 00650	Thermistor, SDT 65	1	S8	4 2319 72640	Slide Switch (Beat Cancel, Micro)	1
D501	4 2029 71590	Diode, 1SS95	1	J7	4 2359 73601	2P Jack (LINE IN)	1
D502	4 2029 71590	Diode, 1SS95	1	J8	4 2359 73601	2P Jack (LINE OUT)	1
D503	4 2029 71590	Diode, 1SS95	1	C328	CM47 3500 K00SV	Mylar 0.047μF 50V ±10%	1
Q501	203 5 7200 60850	Transistor, 2SA 608	1	C329	CM68 2500 K00SV	Mylar 0.0068μF 50V ±10%	1
Q502	203 5 5100 53660	Transistor, 2SC 536	1	C336	CM1 2 3500 K00SV	Mylar 0.012μF 50V ±10%	1
Q503	203 5 4570 73460	Transistor, 2SD 734	1	C337	CM68 2500 K00SV	Mylar 0.0068μF 50V ±10%	1
Q504	203 5 5100 53660	Transistor, 2SC 536	1	<b>NOTES:</b>			
Q505	203 5 5100 53660	Transistor, 2SC 536	1	1. Parts order must contain Model Number, Pat Number and Description.			
Q506	203 5 7200 60850	Transistor, 2SA 608	1	2. Ordering quantity of screws and resistors must be multiple of 10 pcs.			
Q507	203 5 5100 53660	Transistor, 2SC 536	1				
Q508	203 5 5100 53660	Transistor, 2SC 536	1				
Q509	203 5 5100 53660	Transistor, 2SC 536	1				
Q510	203 5 5100 53660	Transistor, 2SC 536	1				
Q511	4 2019 70010	Photo Transistor, ON1128	1				



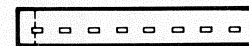
## IC & TRANSISTOR LEAD IDENTIFICATION

FRONT VIEW	BOTTOM VIEW	TRANSISTOR
		2SA608 2SC536 2SC693 2SC1674 2SC1674 2SC400 2SD734
<b>TERMINAL NAME</b>		
B → BASE C → COLLECTOR E → EMITTER		

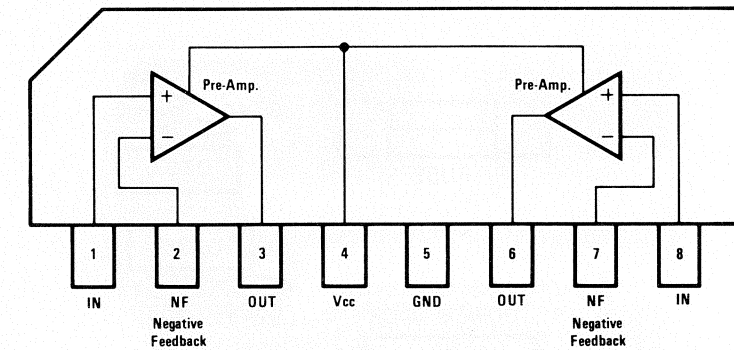
LA3160T FRONT VIEW



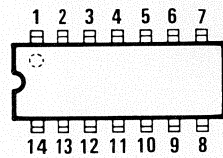
BOTTOM VIEW



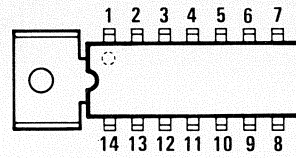
LA3160 BLOCK DIAGRAM



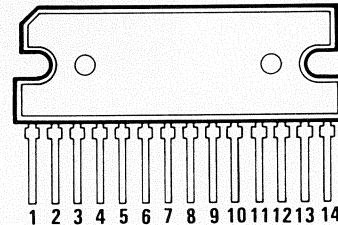
TA7658 BOTTOM VIEW



LB1416 BOTTOM VIEW



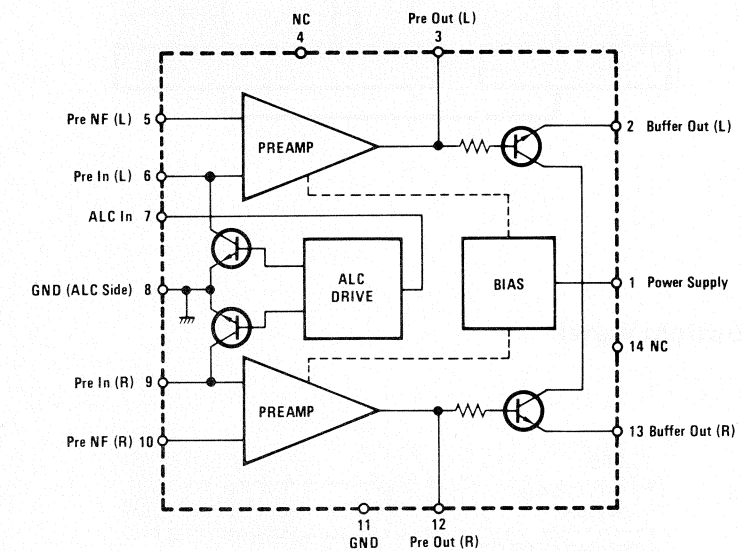
LA4185 FRONT VIEW



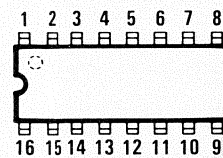
BOTTOM VIEW



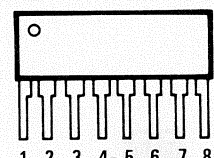
TA7658P BLOCK DIAGRAM



μPC1018, μPC1197 BOTTOM VIEW

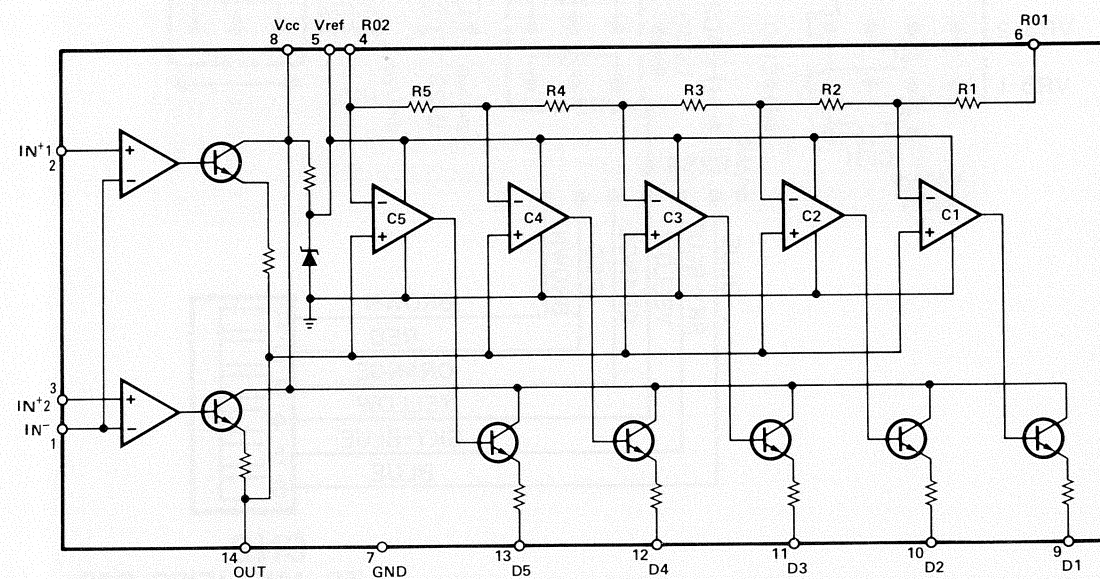


MB3106 FRONT VIEW

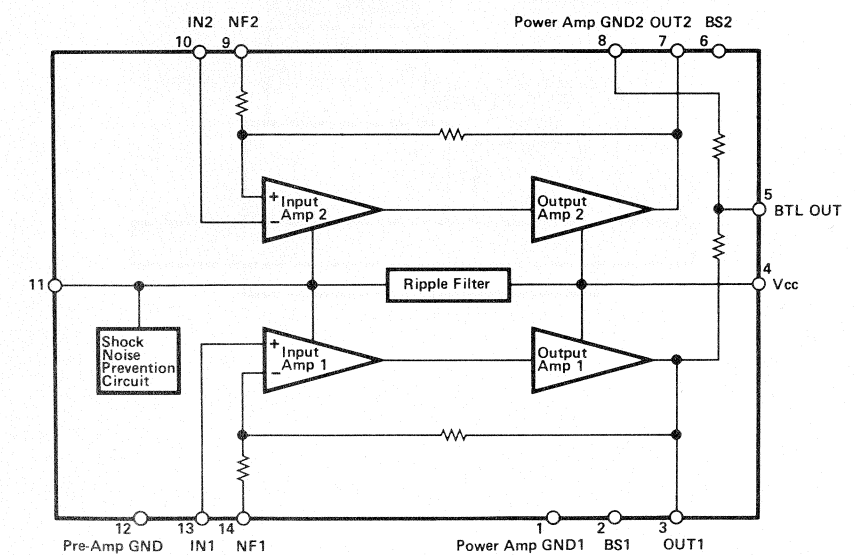


MC-Service

LB1416 BLOCK DIAGRAM

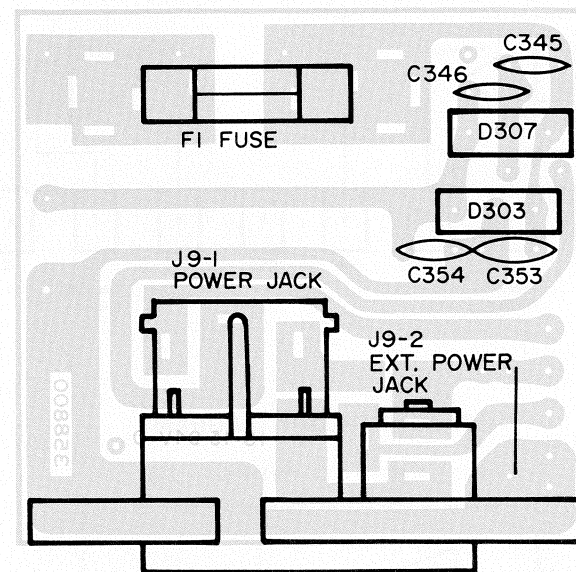


LA4185 BLOCK DIAGRAM

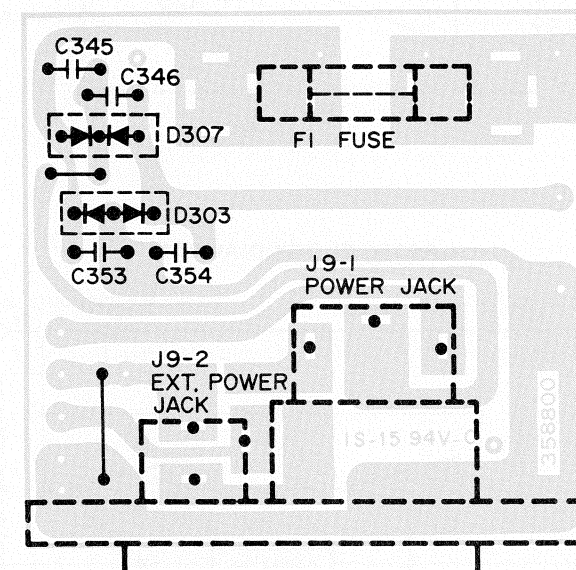


## POWER SUPPLY P.C.BOARD

(Top View)

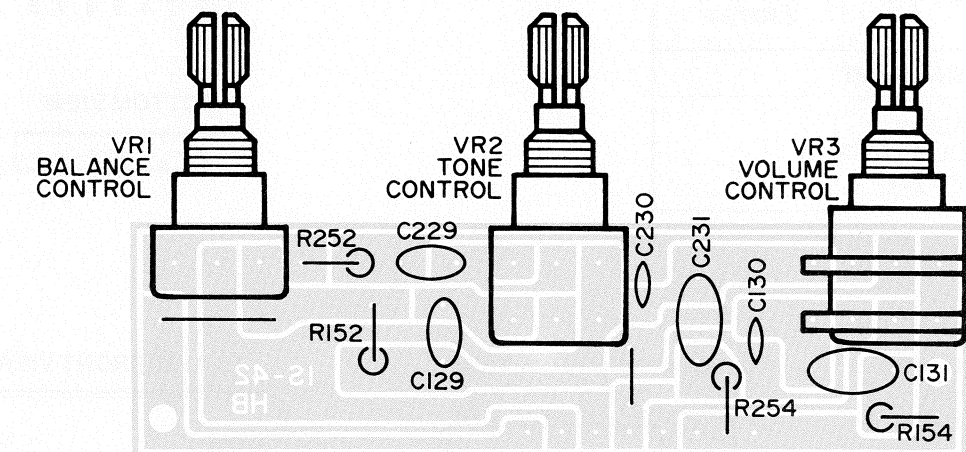


(Bottom View)

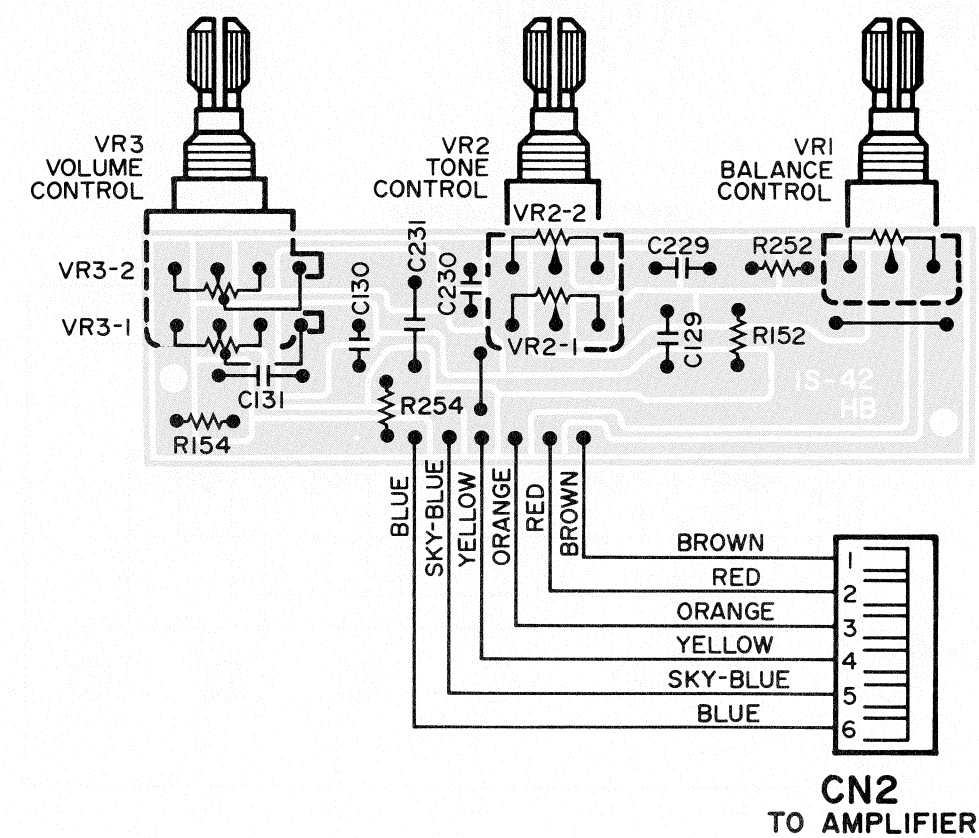


## VOLUME CONTROL P.C.BOARD

(Top View)



(Bottom View)

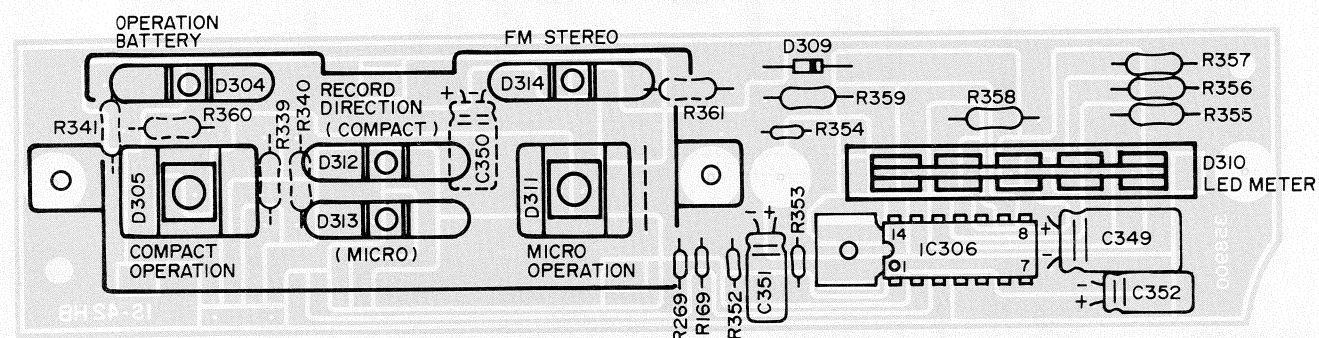


MC-Service

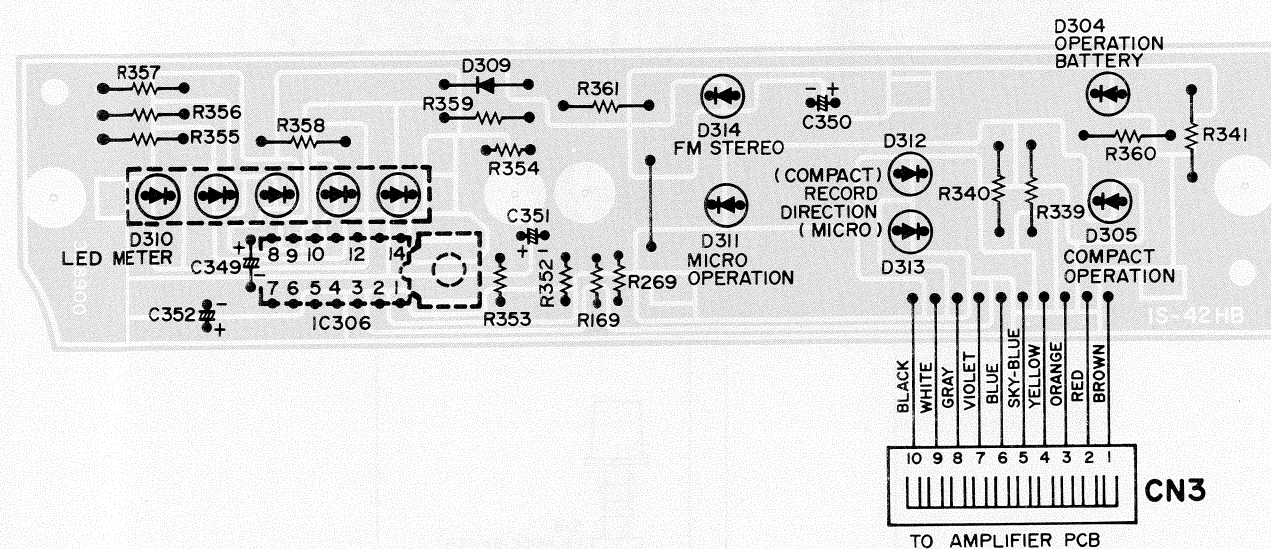


## LED INDICATOR P.C.BOARD

**(Top View)**

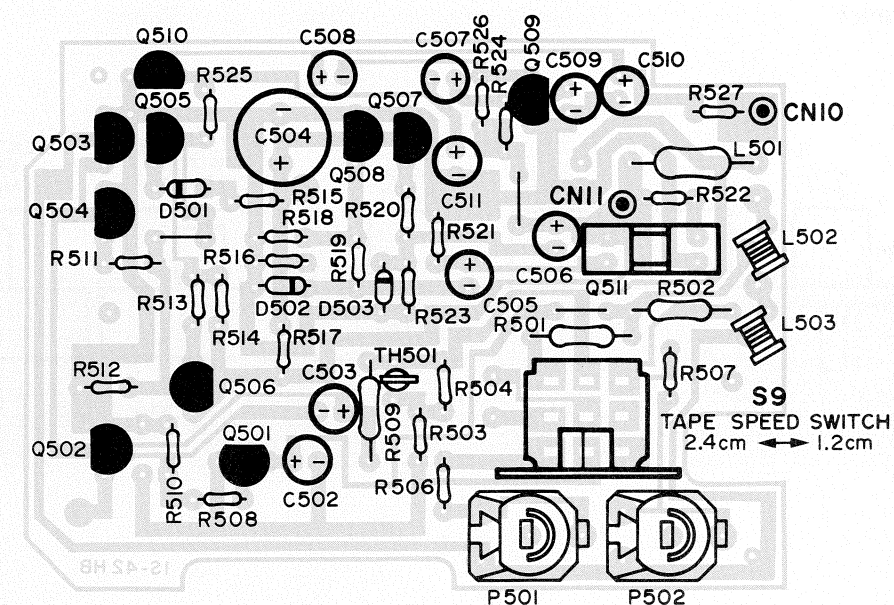


**(Bottom View)**

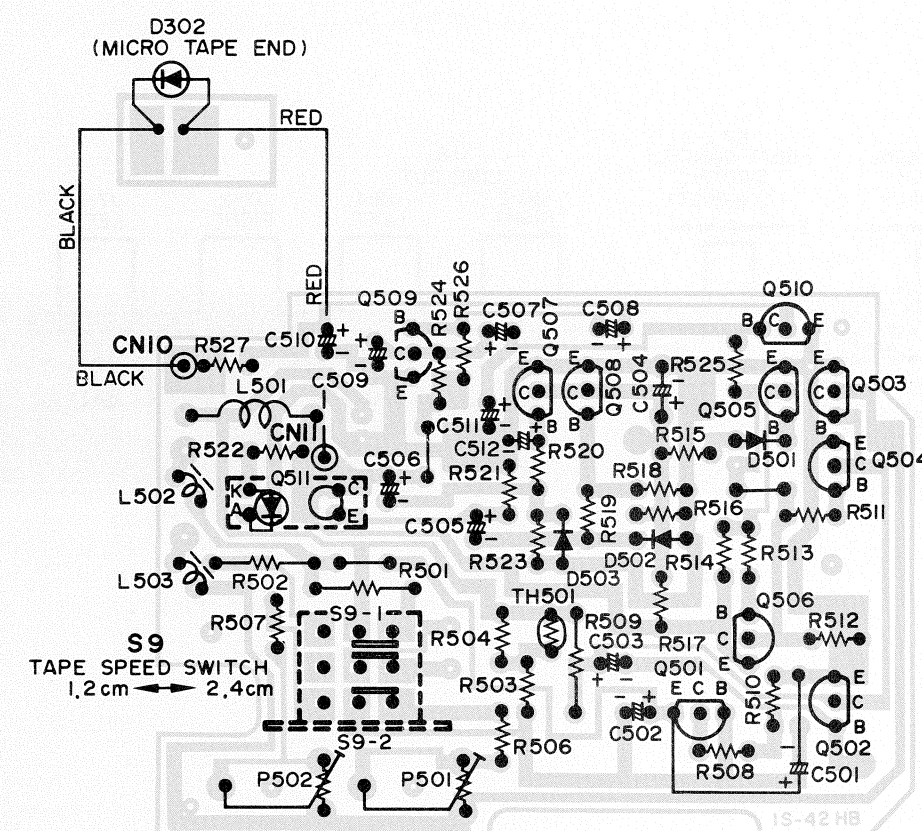


**MOTOR GOVERNOR P.C.BOARD**

**(Top View)**



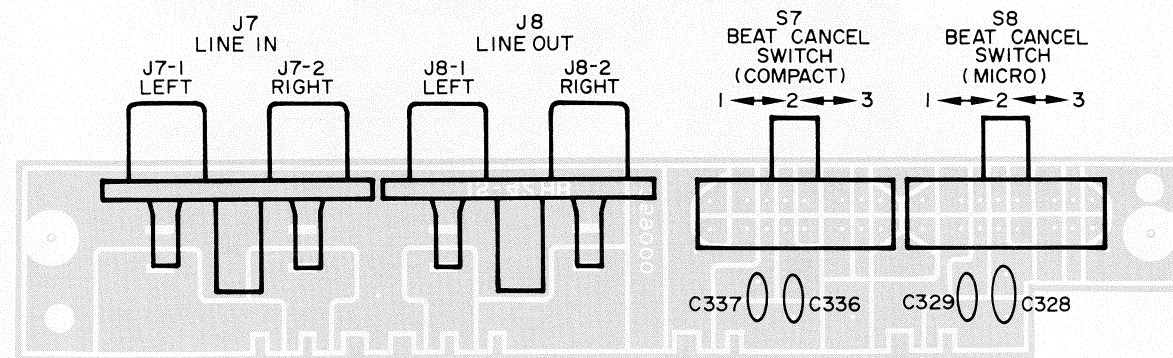
**(Bottom View)**



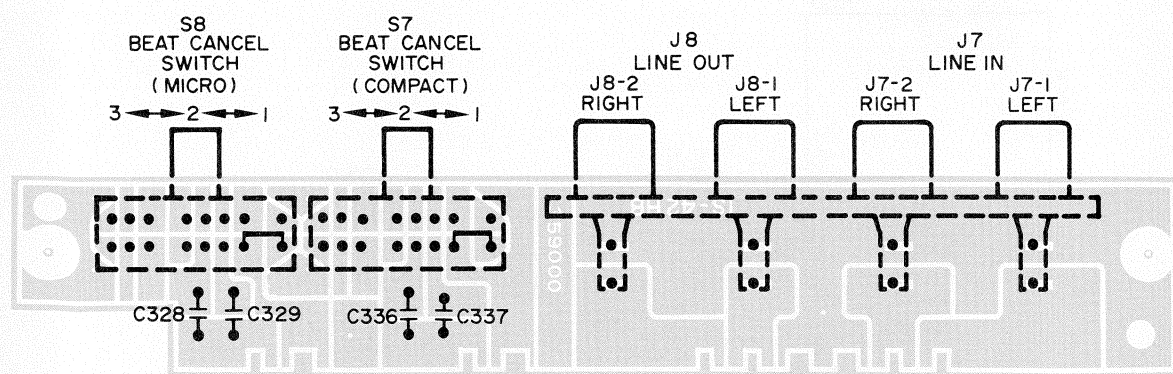


## SWITCH/JACK P.C. BOARD

(Top View)



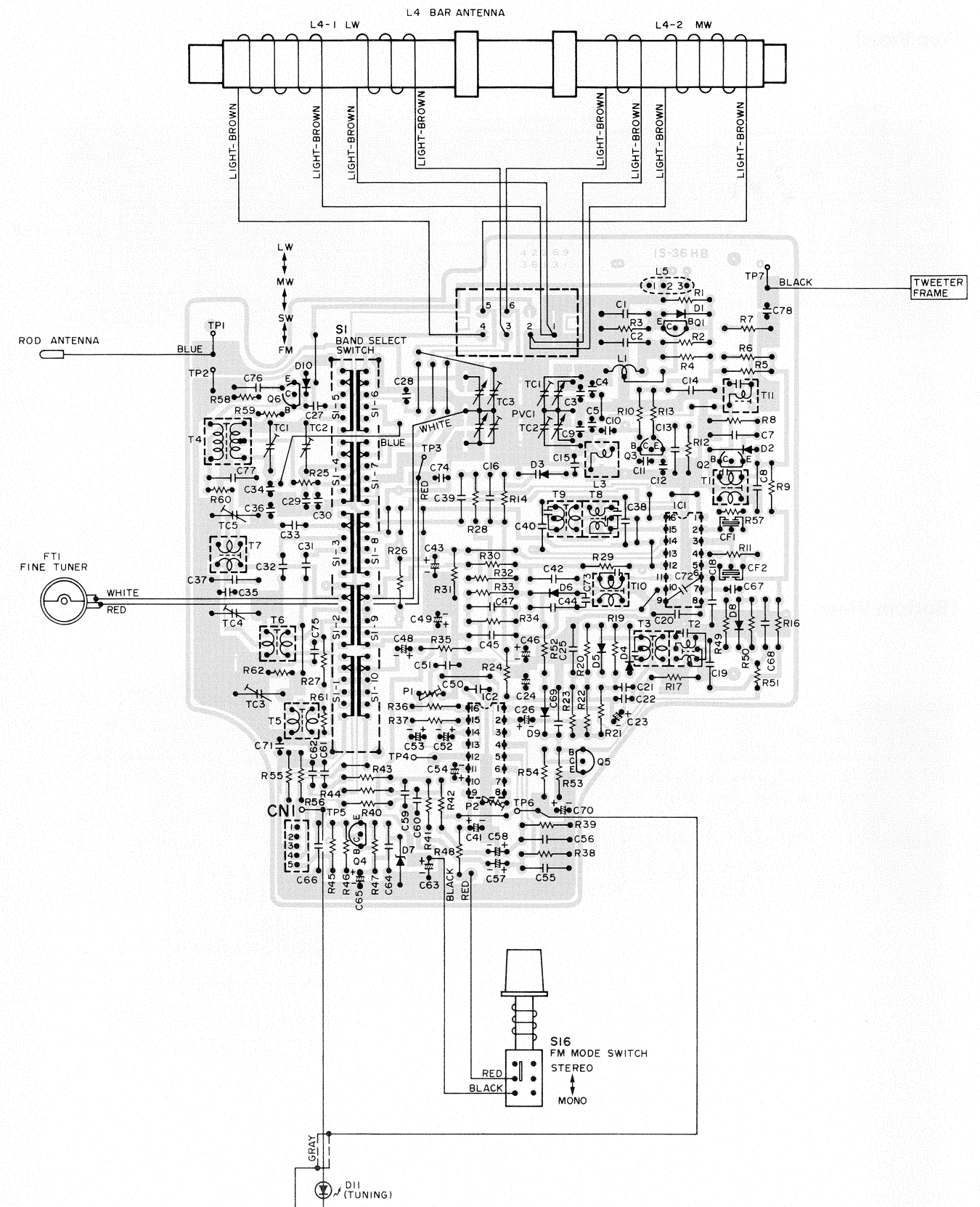
(Bottom View)



MC-Service

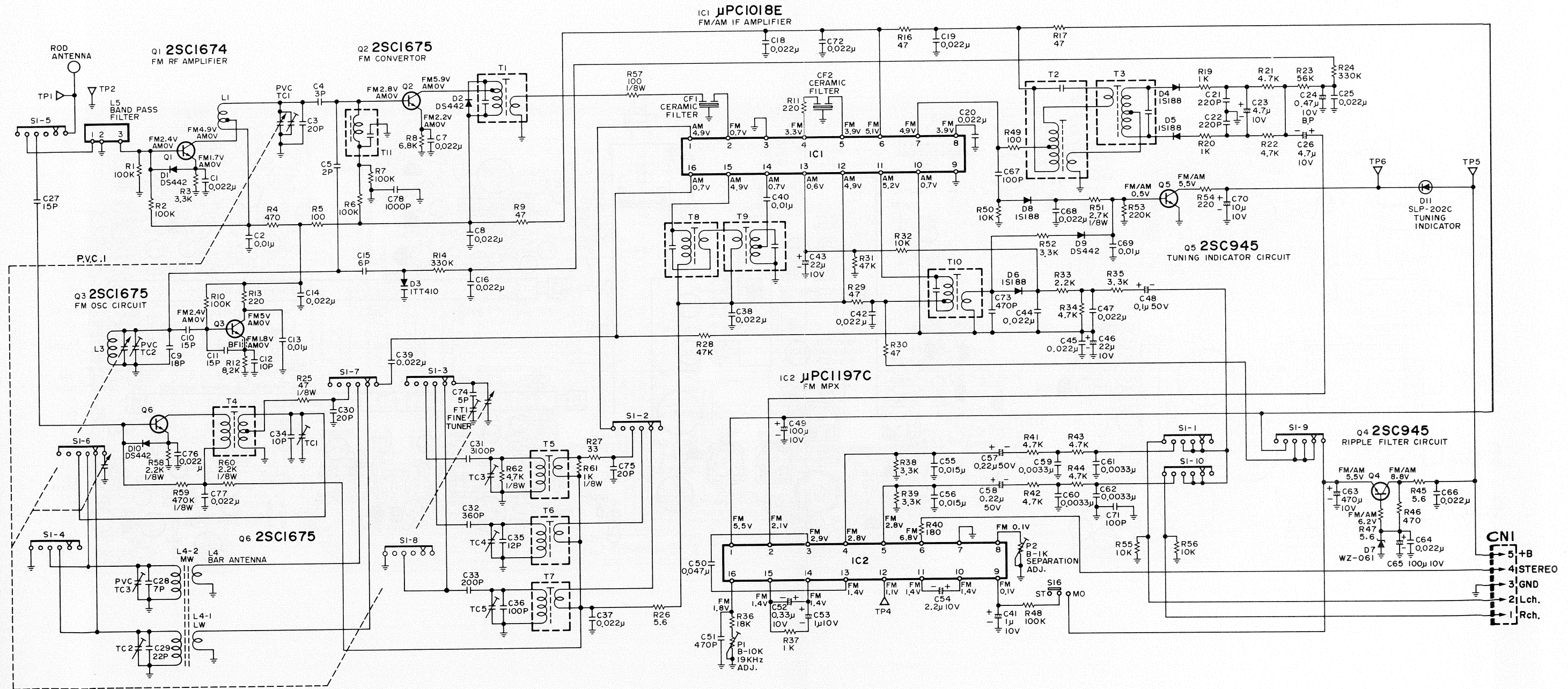
## RADIO TUNER P.C. BOARD

(Bottom View)





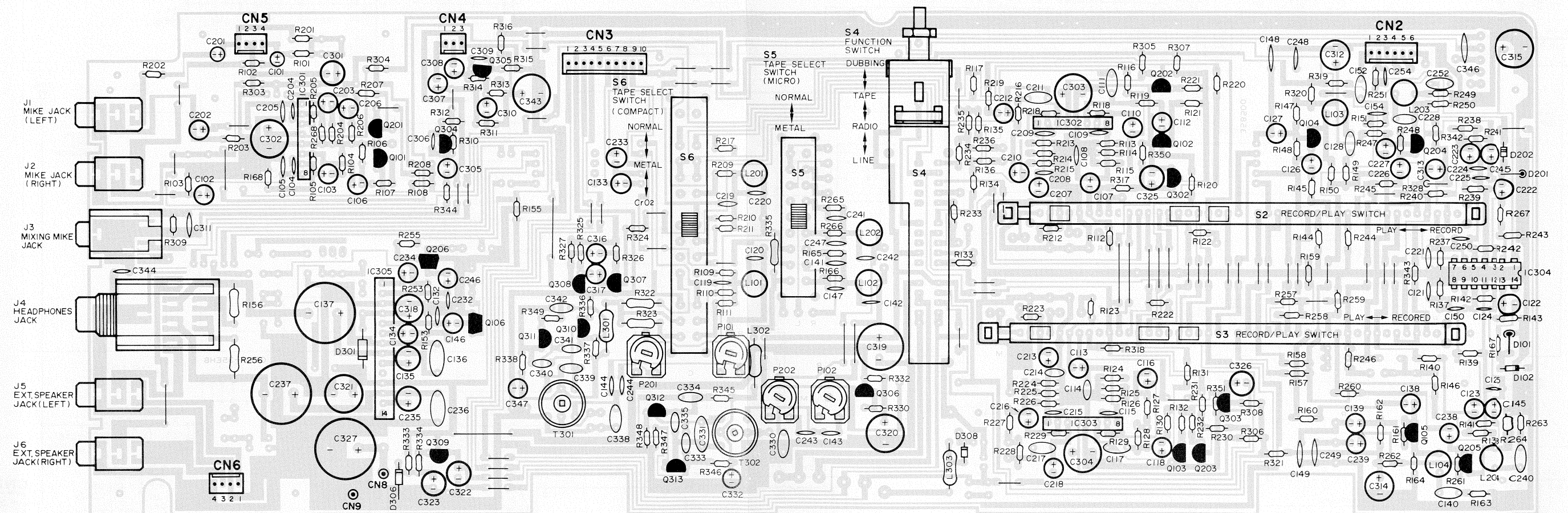
# SCHEMATIC DIAGRAM (Tuner)



MC-Service



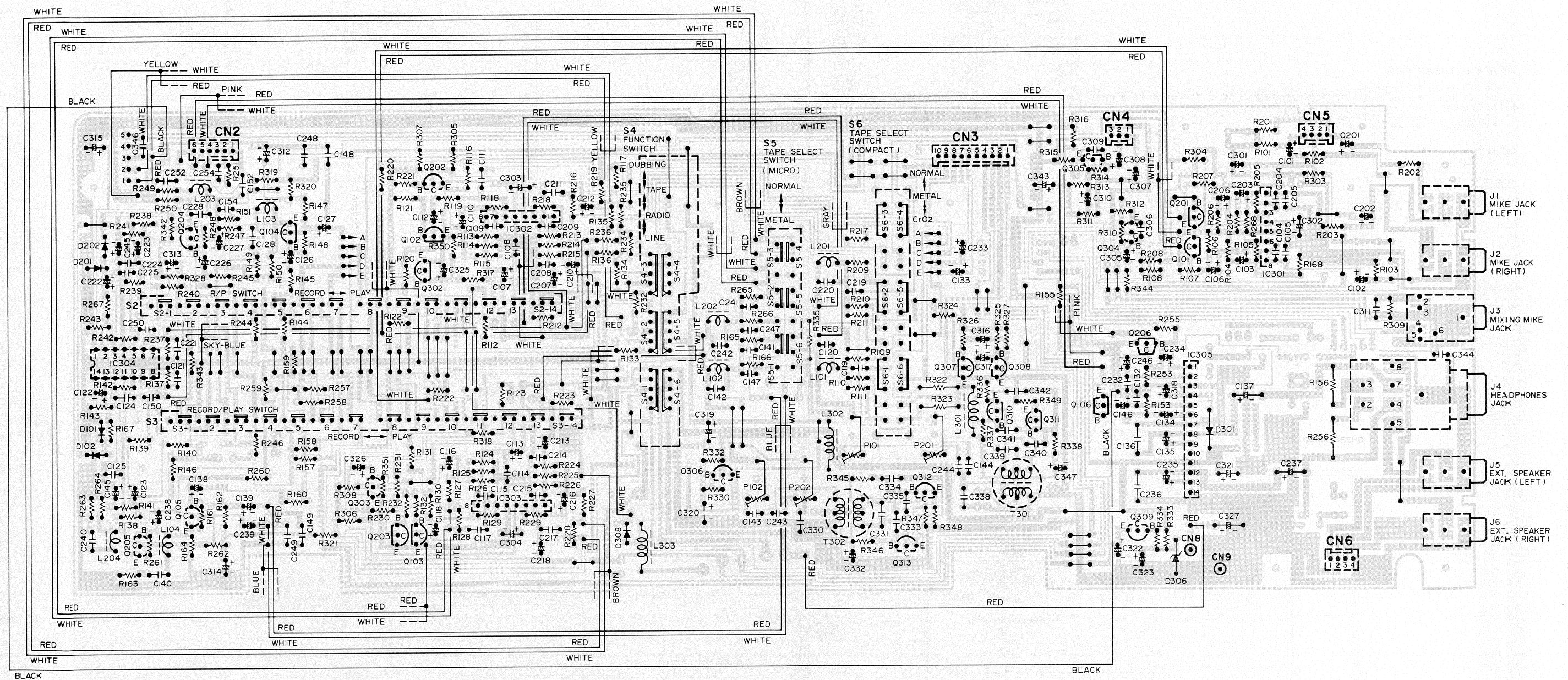
# AMPLIFIER P.C.BOARD (Top View)



MC-Service



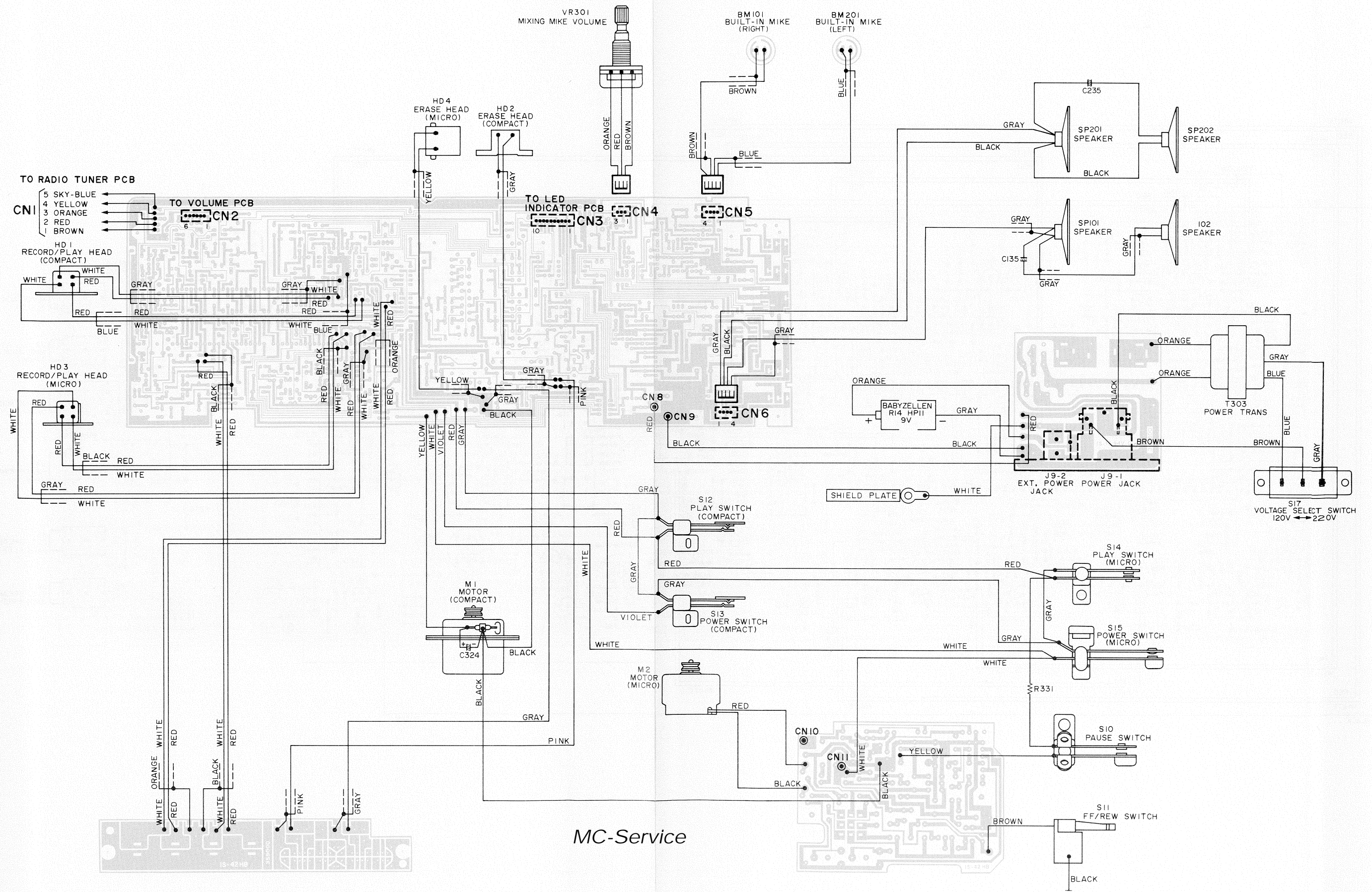
# AMPLIFIER P.C.BOARD (Bottom View)



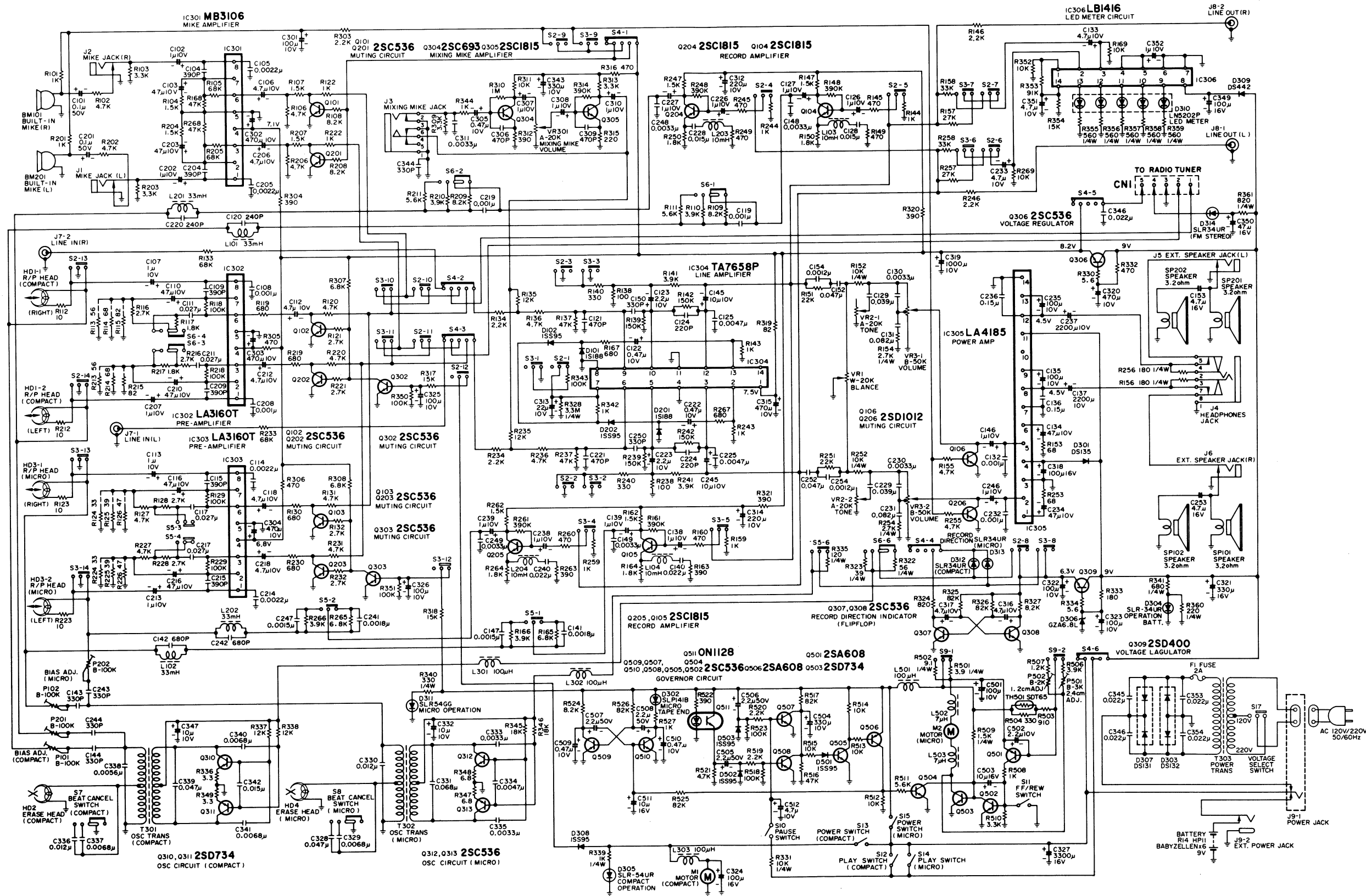
MC-Service



# WIRING DIAGRAM (Amplifier)



SCHEMATIC DIAGRAM (Amplifier)



MC-Service

No.	Name	Position	No.	Name	Position	No.	Name	Position
S1	Band Select Switch	AM	S7	Beat Cancel Switch (Compact)	1	S13	Power Switch (Compact)	OFF
S2	Record/Playback Switch (Compact)	PLAY	S8	Beat Cancel Switch (Micro)	1	S14	Play Switch (Micro)	OFF
S3	Record/Playback Switch (Micro)	PLAY	S9	Tape Speed Switch	2.4cm	S15	Power Switch (Micro)	OFF
S4	Function Switch	LINE	S10	Pause Switch	OFF	S16	FM Mode Switch	STEREO
S5	Tape Select Switch (Compact)	NORMAL	S11	FF/REW Switch	OFF	S17	Voltage Select Switch	220V
S6	Tape Select Switch (Micro)	NORMAL	S12	Play Switch (Compact)	OFF			